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RECONSTRUCTION BEGINS NOW!

NO person in Great Britain in any way in touch with public opinion can be unaware that current ideas and ideals on post-war reconstruction—particularly physical reconstruction—have so gripped the popular imagination that any satisfactory, workable scheme for replanning Britain which is ready to put into operation by the end of the war stands an excellent chance of reaching a high degree of achievement.

It is particularly unfortunate, therefore, that any review of progress made leads to the irresistible conclusion that planning is still the affair of too many hands, between some of which exists a lack of liaison. The more one considers post-war reconstruction the more is one forced to the belief that its success or failure depends very largely on what steps are taken before the end of the war, particularly in regard to housing, and it is just in that direction that there appears to be a serious lack of unified control.

An indication of this is contained in the R.I.B.A. Reconstruction Committee's Housing Group's admirable report on war-time housing, reprinted in our last issue. There it is shown that, though the responsibility for licensing building work over £100 in value is solely that of the Ministry of Works, the Ministries of Health and Supply and various Service Departments are individually responsible for the plans of the housing they sponsor, and work to a variety of types, accommodation schedules, construction and measures for air raid protection. Here, clearly, is a need for co-ordination by a single planning authority which is capable of viewing this new housing not only from its war-time viewpoint but also from its long-term, post-war aspect.

How important is this need for co-ordination? In our view, it is not putting it too high to say that a mal-administered war-time housing programme is a rock upon which the ship of physical reconstruction may easily founder. We stated earlier that public opinion would make reconstruction an accomplished fact if a workable scheme was ready by the end of the war. No scheme will be considered workable by the nation that has not made some provision for speedy rehousing in permanent areas, and in our opinion every house now built should be erected with this in mind as a possibility. Reconstruction begins now!

A first step towards this we take to be general conformation to certain principles. Three criteria need to be satisfied:—

(*a*) Realisation that a lower standard of accommodation has been imposed by war conditions, and that housing must temporarily conform to it;

(*b*) Purely temporary building should be avoided in favour of permanent construction capable of adaptation to post-war use by simple methods; and

(*c*) The provision of air-raid protection up to Code standard within the structure.

As a corollary to (*b*) it follows that permanent construction necessarily connotes erection to plans and layout which will readily find their place in the larger post-war plan. Equally does it follow that building to types which are unsuitable to peace-time use may well hinder the realisation of that post-war plan. Thus do we come back once more to the urgent need for a Central Planning Authority. Only by the creation of such an authority can we hope to avoid the erection of housing which, as an instance, conforms to the requirements of the Ministry of Health but does not satisfy the needs under the Civil Defence Code of the Ministry of Home Security.

Thus far, we have done little more than endorse the R.I.B.A. Report. Elsewhere in this issue will be found details, fully worked out, of a scheme which conforms to the principles there outlined—a scheme of permanent construction suitable for present needs but readily adaptable to peace-time standards of housing accommodation. The technical professions are by now well conversant with the principles of Mr. Arup's scheme of cross-wall construction and the claims made for it on grounds of cheapness, strength and adaptability. This scheme is not entirely new; it has been utilised in Sweden and also in this country. Now we are able to give the working out of the system as applied to a Scottish housing scheme by Mr. Sam Bunton, and we commend it to our readers' closest attention. We do not say that this is necessarily the only scheme for war-time permanent re-housing, but we do unhesitatingly claim that it fulfils the criteria previously stipulated, and as such could profitably be studied by Government Departments, local authorities and all technicians concerned with housing problems. It is at present before the Department of Health for Scotland following acceptance by the local authority.

It will not meet the case, however, if this or any other efficient method is to be left to the unguided choice of individual control by Government Departments or local authorities. There must be unified central direction operating through those Departments and authorities. Failing such direction, we fear the battle for reconstruction will be lost before it is begun, swept away by the primitive, natural instinct to reunite in family life which will show itself, as soon as this struggle is over and done with, in a desire to reunite in houses erected according to plan for preference but, failing their speedy provision, in any kind of houses erected anywhere. We say again: Reconstruction begins now, and its success depends on centralised planning control. The Government will do well to recognise this and act with speed and decision now.

NOTES AND NEWS

Lord Reith on his Ministry.

In a speech in London on September 3, Lord Reith, Minister of Works, said that there was now no shortage of bricks; there was an eight weeks' consumption of cement in reserve, and a weekly output of 150,000 tons; the Government building programme was twice the capacity of the industry, and the Ministry was now handling £1,000,000 worth of building work a day. In describing the work of his Department, the Minister said that the establishment of the Central Council of Works and Building tended to the essential integration of the industry, thus bringing quicker and more efficient results. Some direction and control must continue after the war for a time, but the more the industry looked after itself the less would there be for the Ministry to do, and no sensible Ministry wanted to do more than an industry could do for itself. Nobody could be Minister of Works and Buildings, and nobody could carry war or post-war responsibilities at all properly without making himself disliked here and there by sections of industry.

Redevelopment of Plymouth.

Plymouth City Council has given unanimous approval to the recommendation of the Emergency Committee "that a qualified consultant, preferably Professor P. Abercrombie, be retained to advise in collaboration with the appropriate local officers and committees on the preparation of an outline redevelopment plan and a report for the city, with particular reference to bombed areas." An amendment, proposed by Mr. A. G. H. Thatcher, that the replanning should be thrown open to competition was withdrawn, following an appeal that "Plymouth's first great step might be unanimous."

Alderman Dunstan, in introducing the recommendation, said he believed they would create another city which would have within it all those features which they so cherished, maintaining all the useful services within its confines, and with them the possibilities of Plymouth as a centre to which they could attract visitors and give to them within the city those amenities and facilities which other towns provided, but which they had lacked.

We note that another speaker in the discussion observed: "I want to see a commercial city. There is more money to be made out of smoke-stacks than from a holiday city." Commerce, surely, is not incompatible with a holiday resort, and need not mean too many smoke-stacks in these days of electrical power.

We take leave to congratulate Plymouth on taking such prompt action to deal with its redevelopment problem.

Completion of Slum Clearance.

"We are out to complete with system and purpose what Hitler's bombers have so aimlessly and cruelly begun—the clearing out of the slums," said Professor Holford, a member of Lord Reith's reconstruction staff, broadcasting to America on Monday last in the B.B.C. programme "Answering You." Professor Holford was replying to the question: "Are there any plans for the elimination of slums, after the war, in Great Britain and Northern Ireland cities?" which was put to him in a cable by Thomas F. Walsh, Jun., of Lancaster, Mass.

"We have the will to rebuild after the war," he said. "Already, even in the midst of the conflict, we are out to find the way. A good deal of thinking has to be done first, of course. We are finding out how the population has moved; whether, in fact, the tendency to leave the country for the town will be increased, slowed down, stopped, or even reversed after the war; what the pattern of living will be, following the new location of industry and the revival of agriculture; what standards of housing and planning we are to aim at, so as to give every man and woman a convenient and healthy place to work in, to play in, and to live in. We have got to make sure that we have the equipment and the labour with which to build; and the organisation, the technical training and the financial policy to enable us to build quickly and without waste of men or materials.

"The blueprints are now being developed at the centre, and sooner or later the plans will spring up from every village, town and city in these islands."

Combating Air Attack.

The National A.R.P. Co-ordinating Committee on August 29 placed before the Prime Minister and the Minister of Home Security proposals for minimising to the greatest possible degree the effects of the weight of air attack which, they state, must be anticipated in the coming months. The proposals are based on the Committee's observations during the heavy "blitzes," particularly of April and May, 1941.

The main points are: (*a*) First prepare for planned evacuation of "blitzed" areas, where twenty may be homeless for every one killed. This means survey and earmarking of all accommodation within practicable distance of the target area, and adequate transport arrangements. (*b*) Prepare for rapid repairs by accumulating regional stores of needed materials, and large mobile labour forces. (*c*) Improve rest centres, both as regards safety and amenities. Large buildings without steel frames should never be used. (*d*) Improve feeding arrangements not only by the scheme of British Restaurants, but by arranging to take over hotels and catering establishments, and use field kitchens. (*e*) Improve fire-fighting by better water supplies and training. Make fireproofing of woodwork compulsory. Enforce easy access to large buildings. (*f*) Press forward reinforcement of shelters and waterproofing of Andersons. New surface shelters should be of reinforced concrete as in some London boroughs. In real "target" areas, such as the docks, all new shelters built should be of the "Haldane" type, which in its first stage of construction is claimed to be as strong as the new official types, but has the great advantage that in its second stage it can be made bombproof.

Regional Commissioners, it is suggested, should work out plans with a Regional Council representing local authorities, though of course such a council could not make the decisions necessary during an actual raid.

Government Fuel Economy.

As one of the Government's measures to conserve fuel for war purposes, four hundred thousand civil servants, occupying eighteen thousand buildings, are to have their hot-water supply cut off during the day. From 9 a.m. to 7 p.m., only cold water will be on tap. For those on duty overnight, from 7 p.m. to 9 a.m., or who sleep in their offices, there will be a hot-water supply, but the temperature will be strictly limited. Instructions to this effect have been issued by the Ministry of Works to stokers in all Government buildings, who have also been ordered to restrict the heat of rooms in the winter to 60 deg. F. It is pointed out that each degree above the limit would put up the fuel consumption by 5 per cent. The peace-time consumption of fuel by the Government amounted to some 400,000 tons of coal and coke per annum.

Director of Bricks: An Appointment.

The Minister of Works has appointed Mr. Lockhart W. Hutson, F.R.I.B.A., formerly Deputy Director of Bricks for Scotland, to be Director of Bricks in succession to Mr. T. P. Bennett, F.R.I.B.A., now Director of Works. Mr. James M. Honeyman, F.R.I.B.A., succeeds Mr. Hutson as Deputy Director of Bricks for Scotland.

An Architect's Estate.

Mr. G. C. Drinkwater, architect and artist, an Oxford Rowing Blue, left £1,572 (net personalty £1,453).

IN 1916.

From *The Builder*, September 8.

Now that the autumn has arrived we have once more to call attention to the courses and lectures on architecture and building which are now provided in so many of our great urban centres. The want of such teaching as is now afforded all over the country has, no doubt, much to do with the poverty of design which was so marked a feature of the Victorian epoch and which it is to be hoped will be altered in the coming decades of this century.

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COMING EVENTS.

Friday, September 12. Institution of Municipal and County Engineers. W. Midland District Junior Meeting at Council House, Birmingham. Mr. W. L. Hulley on "Urban Reconstruction with Particular Reference to Coventry." 6 p.m.

Tuesday, September 16. Architectural Association. Address by President, Mr. A. W. Kenyon on "The Power of Unity and Efficiency." At 36, Bedford-square, W.C.1. 5.30 p.m.

Thursday, September 18. Institution of Electrical Engineers. Mr. R. Grierson on "Space Heating by Means of Electrically-warmed Floors, as Applied to Surface-type A.R. Shelters." At Savoy-place, W.C.2. 6 p.m.

Saturday, September 20. The Ecclesiological Society. Visit to some of the City's damaged churches. Meet at Mark-lane Station. 2.30 p.m.

CORRESPONDENCE

Brighter Britain.

To the Editor of *The Builder*.

Sir,—In the Interim Report No. 1 of the R.I.B.A. Reconstruction Committee reported in *The Builder* for August 29, two of the points made under the heading of "New Possibilities" are:—

(1) Hot water and heat distribution on an area basis;

(5) The avoidance of atmospheric pollution.

These two principles are somewhat interlocked, as one of the great advantages of area heating is the elimination of atmospheric pollution. The major portion of atmospheric pollution, smoke, is a subject so threadbare as to need no further discussion as to its ill-effects.

The ideal, or, rather, a basic principle, of a future brighter Britain is to eliminate smoke from our towns and cities. It should be made impossible for any scheme of heating or steam raising where coal is used to be allowed to function without a definite approved design installation to prevent smoke of such a character as to render rigid supervision by a local authority unnecessary.

All heating requirements are now easily provided for in the three main smokeless units—electricity, gas, and coke. In the housing schemes yet to materialise, smoke prevention should be considered of vital importance, and for any locality above a definite head of population coal-firing should be legally abolished.

More consideration could be given to the design of buildings to reduce heat losses, viz., transmission values of the various building materials properly appreciated. Principles of natural ventilation should be applied to prevent draughts and consequent unnecessary loss of heat. Ventilation should not be through the cracks in the ground-floor boarding or any other uncontrollable inlets.

The great difficulty, however, appears to be to provide fuel units at a cost suitable to everyman's budget, and with healthy rivalry of the three main suppliers of fuel, the lowest practical cost should be attained.

In the meantime, there is much room for improvement in design of the open fireplace so as to take more heat units from the flue gases of both gas and gas-ignited coke fires, which in small houses might be utilised for the provision of domestic hot-water supply or further heating. Something is wanted in the nature of an inverted hot-air tube L boiler with proper main flue design to provide for, among other things, condensation which occurs when the temperature of the flue gases is reduced below a certain point after combustion according to the final content of moisture.

Personally, at present I obtain heat from the flue gases of a six-radiant gas-fire sufficient to provide a 13 sq. ft. water-supplied wall radiator with a mean temperature of 140 deg. without any flame above the top of the radiants.

From 25 per cent. to 33⅓ per cent. of heat value can be extracted from the flue gases of a gas-fire, and obviously more could be extracted from the flue of a gas-ignited coke fire.

R. Haslam, M.R.San.I.

CHURCH AT BUSSUM

From the Exhibition of Dutch Architecture photographed by Mr. F. R. Yerbury, Hon. A.R.I.B.A., at the Building Centre, Little Titchfield-street, W.

War Repairs and Builders' Profit.

To the Editor of *The Builder*.

Sir,—I have read with interest the letters on the above subject, and hope that the outcome will be still greater interest being shown by the whole of the jobbing building trade, and that the ultimate effect will be to put the trade on a sound financial basis.

As a war effort my firm adopted the principle that work in connection with the war (*i.e.*, air-raid shelters and repair of war damage) should carry no actual profit over and above general establishment expenses. But the 12½ per cent. and 2½ per cent. on cost of labour and materials agreed by local authorities for first-aid repairs not only show no profit, but in many cases a loss.

The result will be, I fear, either the closing down of the smaller builders or to open the door to malpractices in costing. Neither of these alternatives would benefit the country nor the war effort, for, as is rightly stated in your leader last week, the small builder is the real backbone of the industry.

Is it not possible to arrive at a fair percentage of the net cost of labour and materials to be added to cover the cost of general establishment charges (detailed in the letter from "W" last week)? Reputable firms can easily prove this percentage from their audited accounts. In our case, with the exceptional war-time overheads, this figure for the year 1940 was 28 per cent. In the past, where an account has been disputed, the production of our audited accounts has always provided a basis for an amicable settlement.

I feel it is better to offer the builder a fair percentage to cover all his overheads plus a small additional percentage on the total cost for the use of his capital. During the war this profit might well be based on the return of "gilt-edged."

In return, the builder would be expected to employ only skilled building trade labour paid at the standard rate, and to carry out all work well, efficiently and economically. Also to keep full and proper accounts which, together with invoices, vouchers and time-sheets, would be available for inspection by the authority paying the account.

Small Master Builder.

To the Editor of *The Builder*.

Sir,—The discussion in *The Builder* on the above subject is of interest to me. I have put in close on twelve months in my capacity as clerk of works for a local authority, and the following lines have been worked on: If the wages costs are presented each week and duly certified, the contractor gets his cheque during the week following, and all invoices are duly checked each fortnight and allocated to the properties concerned and duly certified and cheque remitted. It is really a cash transaction and carries 12½ per cent. profit and 2½ per cent. for plant. The insurances of both the man and the employer are payable by the local authority.

H.

To the Editor of *The Builder*.

Sir,—Why not put it on a sliding scale? Twelve and a half per cent. plus two and a half per cent. means money on thousands, but on small amounts, say, under £200, means paucity and cannot be done. Leave plus out of amounts under £200, and the builder can make a fair profit, but taking the percentage on small amounts never will pay, as very little straightforward work is done under £200.

Holloway. G. B.

WAR-TIME HOUSING ON CROSS-WALL SYSTEM

A CLYDESIDE PROPOSAL

FOREWORD.

We publish below some details of the "safe" housing scheme which has been submitted by Mr. Sam Bunton, A.R.I.A.S., on behalf of a Clydeside local authority, to the Department of Health for Scotland for approval.

GENERAL.

The theory of "safe" housing was developed by Mr. O. N. Arup in his publication "Safe Housing in War Time." This theory may be briefly stated as follows :—

(1) Housing can be planned to provide in war time a comparatively low standard of accommodation per head, *e.g.*, hostels, and yet be easily convertible into normal houses or flats after the war.

(2) By adopting concrete "cross-wall" construction, housing can be given a high degree of air-raid protection.

(3) Housing constructed on the "cross-wall" principle is comparable, as far as initial cost is concerned, with housing constructed of any of the other materials available in war time. As far as maintenance cost and post-war residual value is concerned, "safe" housing is a superior form of housing.

In passing, it is interesting to note three facts which conform to Mr. Arup's views :—

(1) The Government's present policy of issuing Morrison rather than Anderson shelters, *i.e.*, air-raid shelter within the house rather than outside.

(2) The most recent official designs for air-raid shelters are of concrete "cross-wall" construction.

(3) The extensive use of "cross-wall" construction for low-cost housing in this country and abroad, *e.g.*, flats at Evelyn Court, Hackney.

Mr. Bunton was appointed some time ago to organise emergency repair of housing in a Clydeside region. However, it soon became apparent that first-aid repair alone would not meet the problem and that new accommodation would have to be provided. At this point, Mr. Bunton came across "Safe Housing in War Time" and, after a close examination, decided that Mr. Arup's scheme was the best solution to his problem. Working in close co-operation with Mr. Arup, Mr. Bunton concentrated on combining Mr. Arup's theories with Scottish planning standards.

Turning from the general to the particular, Mr. Bunton then prepared a scheme for a particular site in the Clydeside area. This site is in the middle of an existing housing scheme which was designed and laid out by Mr. Bunton.

THE SCHEMES.

Mr. Bunton has submitted two entirely separate schemes for the particular site. Both schemes are based on the same constructional principles which do not need elaboration here, since they have already been described (see *The Builder*, July 4, 1941.).

(I) THE HOSTEL SCHEME.

The scheme (see site plan Figure 1) consists of two large hostel blocks, and to each block there is attached a communal dining-room (see $\frac{1}{8}$-in. scale plans, etc., Figure 4). The complete scheme is estimated to provide accommodation for 316 persons at a total cost of £20,600, or £65 per person. This cost is based on carefully measured quantities and includes all services, heating installation, etc.

After the war the whole scheme can be transformed into a combination of three and five-apartment flatted houses and

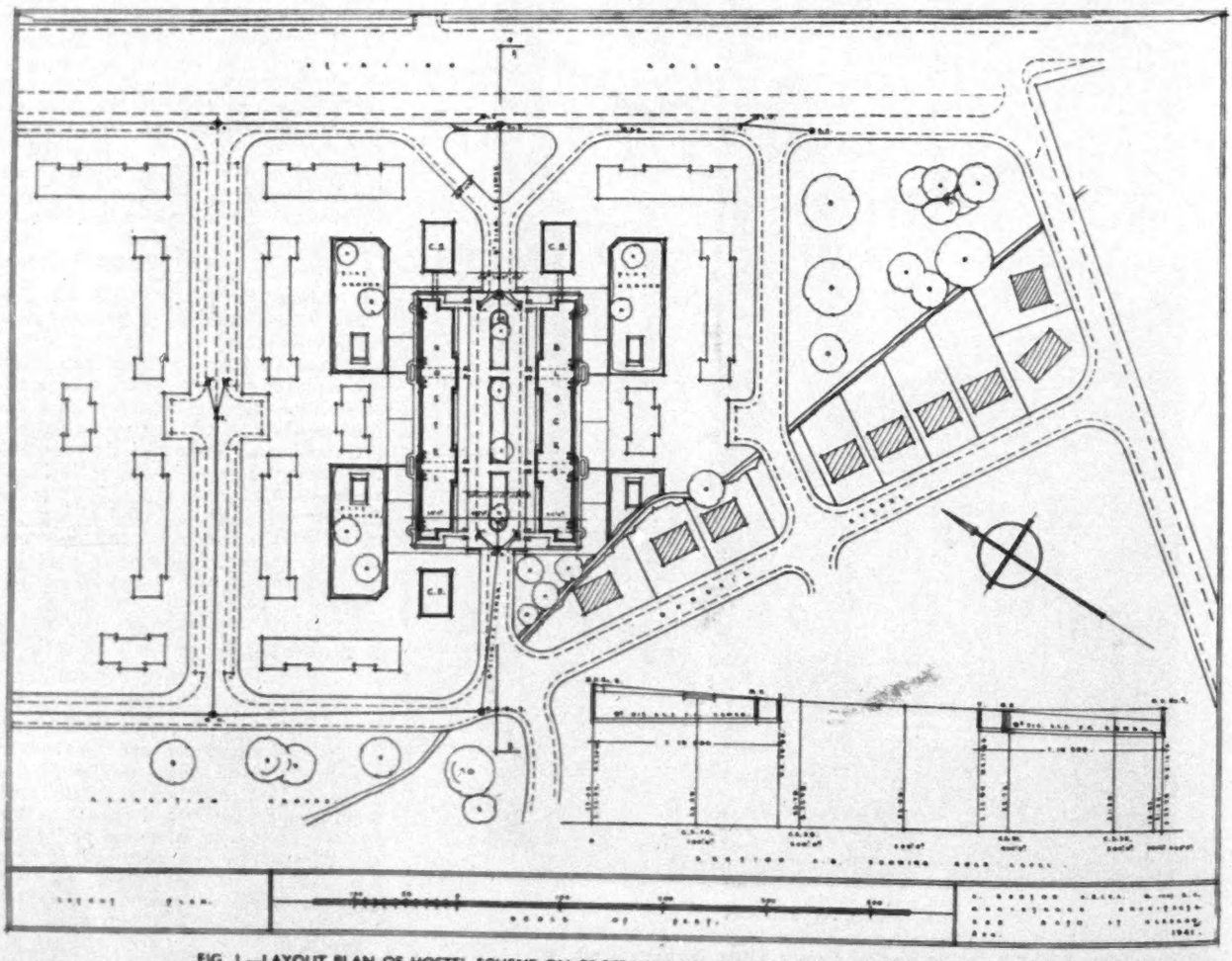
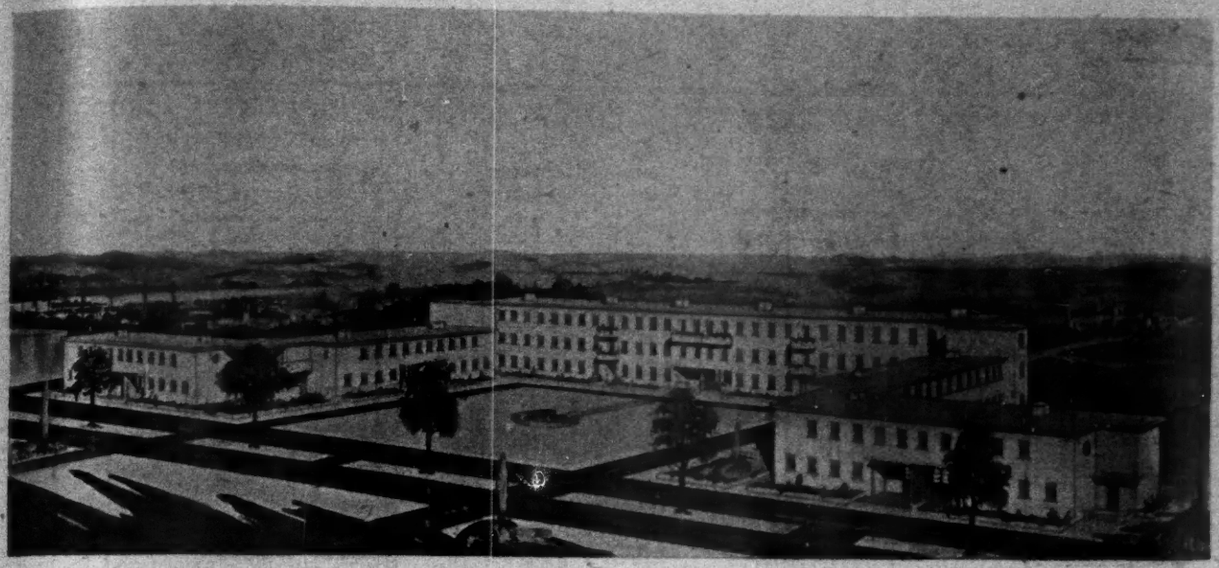


FIG. 1.—LAYOUT PLAN OF HOSTEL SCHEME ON CROSS-WALL UNIT SYSTEM FOR A CLYDESIDE BOROUGH.



A SUGGESTED CLYDESIDE PEACE-TIME DEVELOPMENT OF HOUSES CONSTRUCTED ON CROSS-WALL UNIT SYSTEM.

five apartment cottages. Accommodation is thus provided for 148 persons and the cost of conversion is estimated at £15,000 or £100 per head. Figure No. 5 shows the peace-time conversion of each of the hostel blocks into eight three-apartment and four five-apartment flatted houses, and Figure No. 2 shows the conversion of each of the communal dining-rooms into two five-apartment cottages.

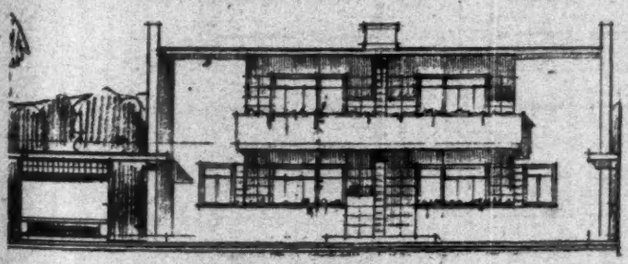
(2) THE COTTAGE SCHEME.

Whereas the hostel scheme is intended primarily for single people, the cottage scheme (see site plan Figure 6) is intended for families. In view of the fact that it may not be economically possible to provide family houses at pre-war standards of accommodation, Mr. Bunton has accepted the Liverpool precedent and suggests that in war-time each family should be allowed approximately half the floor area normally allowed in peace time. Figure 3 shows a pair of war-time cottages to accommodate four families. The peace-time conversion is as seen in Figure 2.

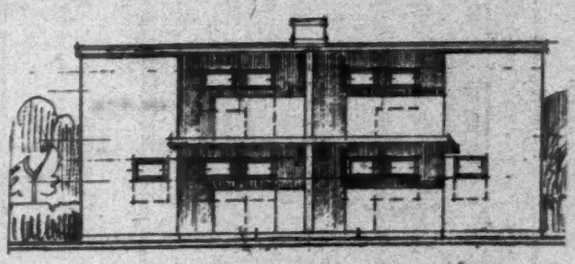
Accordingly, his war-time cottage plans provide accommodation for a family on each floor, *i.e.*, two families in a house which, on pre-war standards, would have accommodated only one family. On this basis, the cottage scheme provides in war time flatted family accommodation for 252 persons in 36 five-apartment flats (see Figures 7 and 9), and peace-time accommodation is provided for 130 persons in 14 five-apartment cottages and 8 three-apartment flats (see Figures 8 and 9).

COSTS.

As far as cost is concerned, it is obvious that the initial cost per head for family accommodation will be higher than



FRONT ELEVATION.



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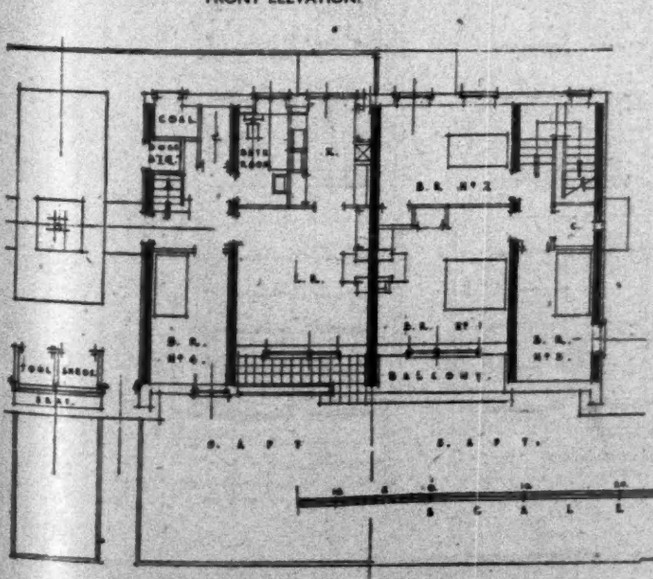


FIG. 2.—PEACE-TIME CONVERSION OF COMMUNAL DINING-ROOM INTO TWO 5-APARTMENT COTTAGES. THIS PLAN READILY LENDS ITSELF TO USE AS WAR-TIME COTTAGES AS SHOWN IN FIG. 3.

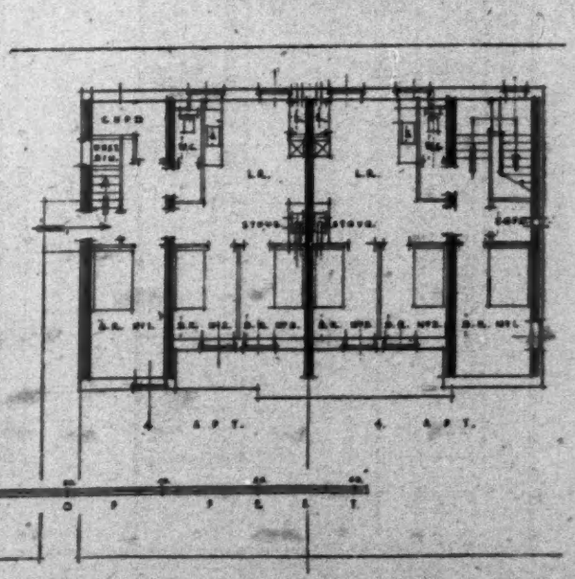
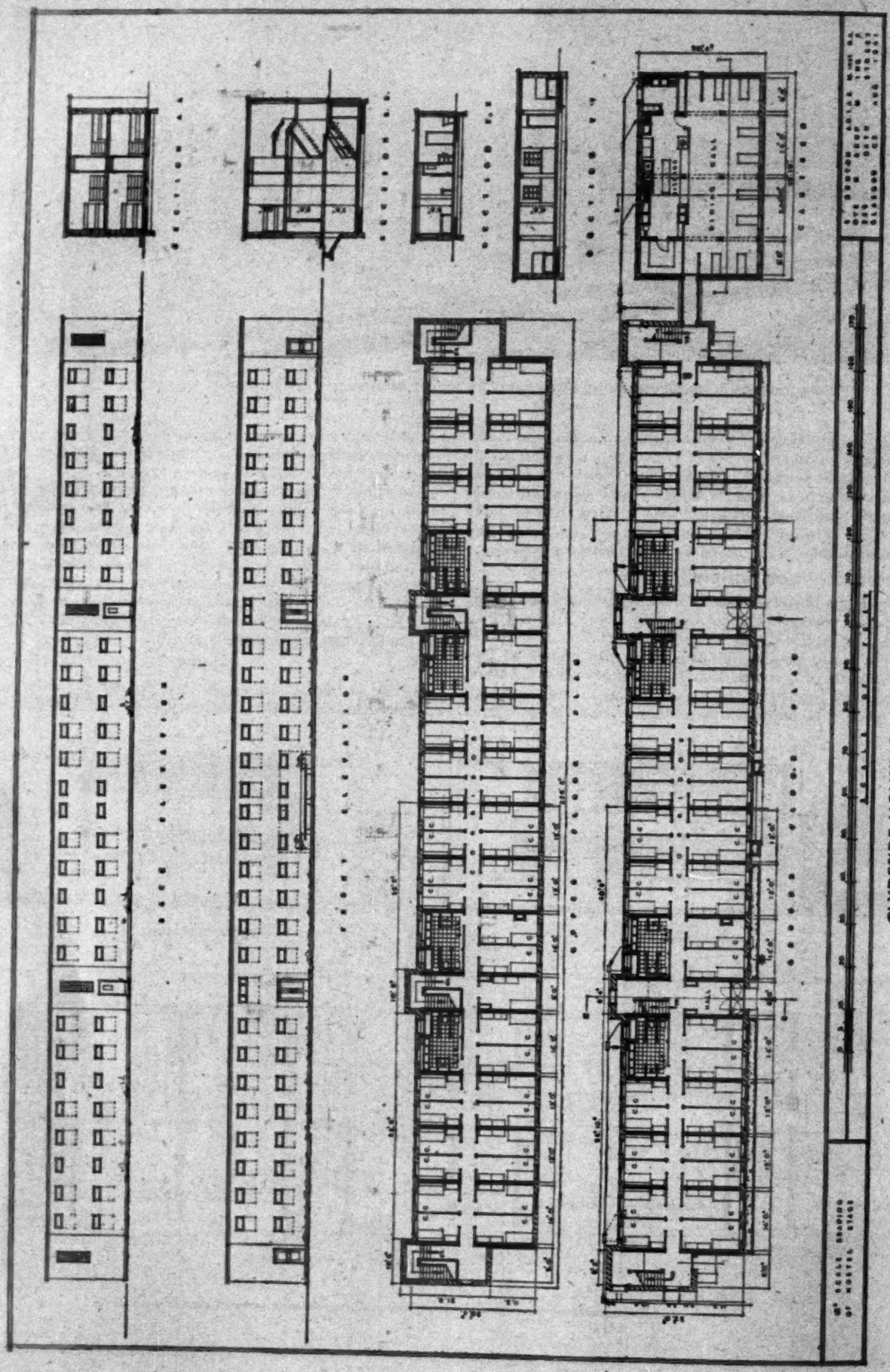
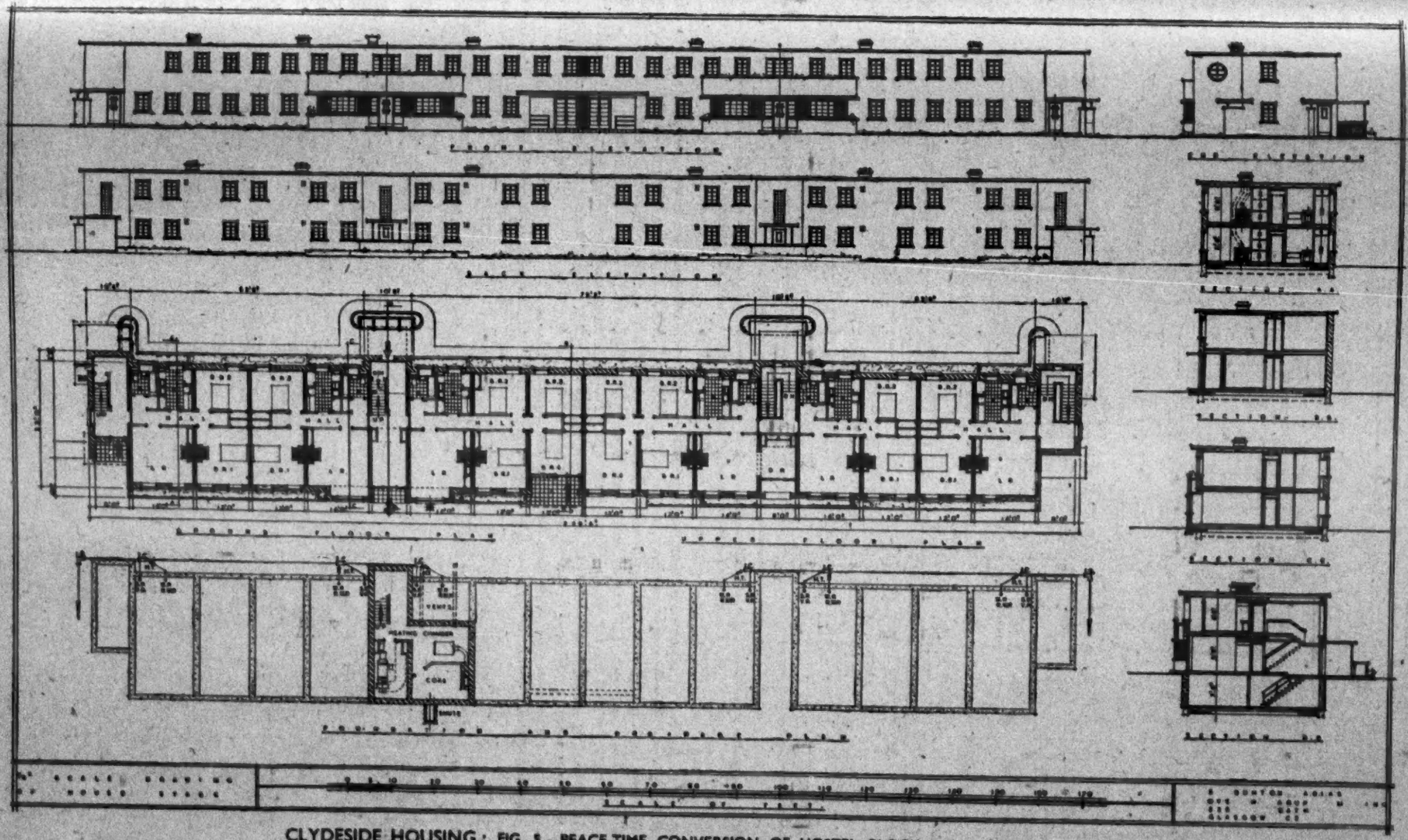


FIG. 3.—PAIR OF WAR-TIME COTTAGES TO ACCOMMODATE FOUR FAMILIES. THE METHOD OF PEACE-TIME CONVERSION IS SIMILAR TO THAT SEEN IN FIG. 2.



CLYDESIDE HOUSING: FIG. 4.—WAR-TIME HOSTEL BLOCK.



CLYDESIDE HOUSING: FIG. 5.—PEACE-TIME CONVERSION OF HOSTEL BLOCK INTO FLATTED HOUSES.

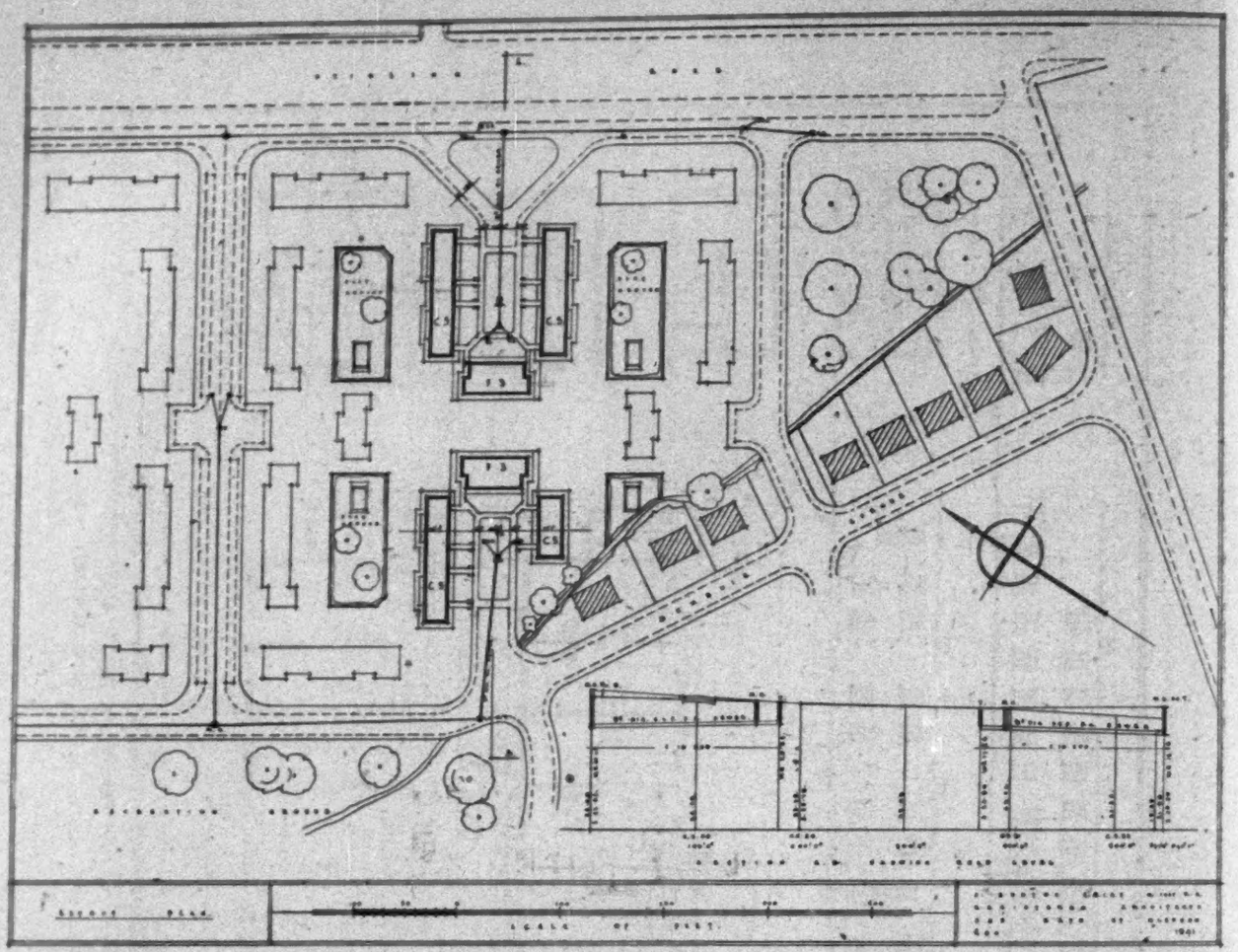
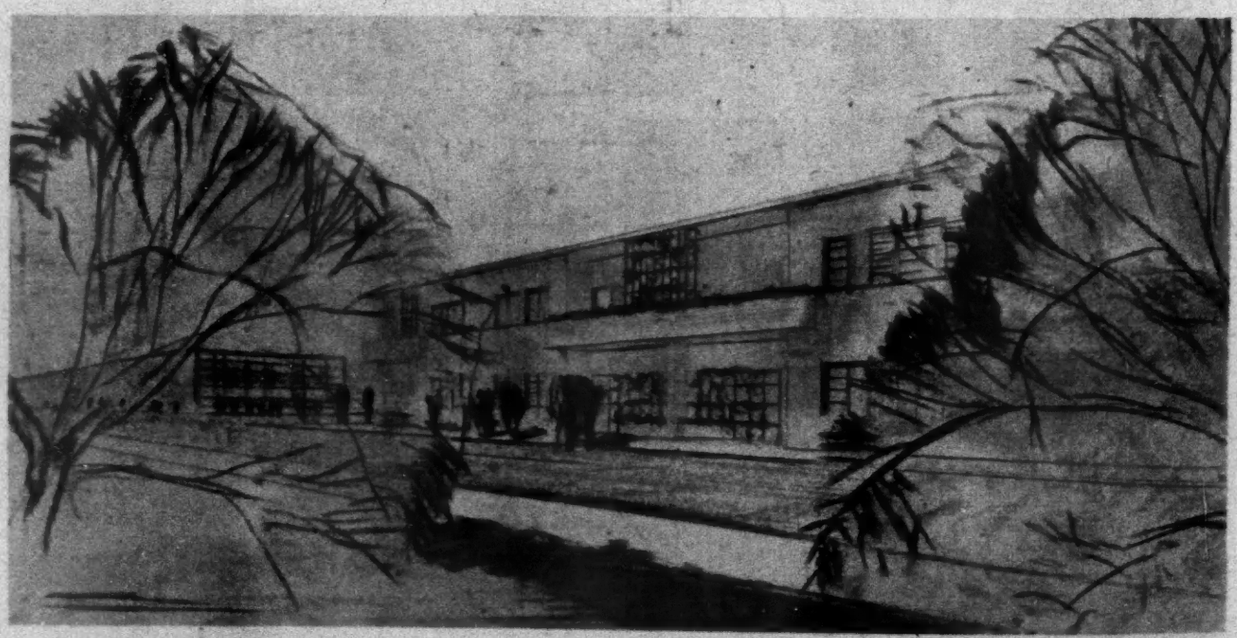


FIG. 6.—LAYOUT PLAN OF WAR-TIME COTTAGES FOR A CLYDESIDE BOROUGH.

the cost per head for hostel accommodation, since in the family flatted house, a larger floor area per head is provided. However, to offset the higher initial cost per head for family accommodation, the post-war conversion cost for the family house is less. Thus, as far as the final costs are concerned, it makes little difference whether the war-time building takes the form of hostels or two-family flatted cottages, since in either case the final cost per head for peace-time standard family accommodation is approximately the same.

The estimates of cost have been prepared by Mr. D. W. Miller, P.A.S.I., and the schedule of "bulk" quantities for the cottage scheme follow at the end of this article. Figures 10 and 11 show "half-inch" plan and section of the Hostel scheme, and the quantities for the Cottage scheme are based on similar construction and detailing. In commenting on the costs, Mr. Miller raises some interesting points:—

(1) The conversion costs are based on present-day prices. If the upward trend of prices is maintained, this conversion



PERSPECTIVE VIEW OF PART OF COTTAGE SCHEME.

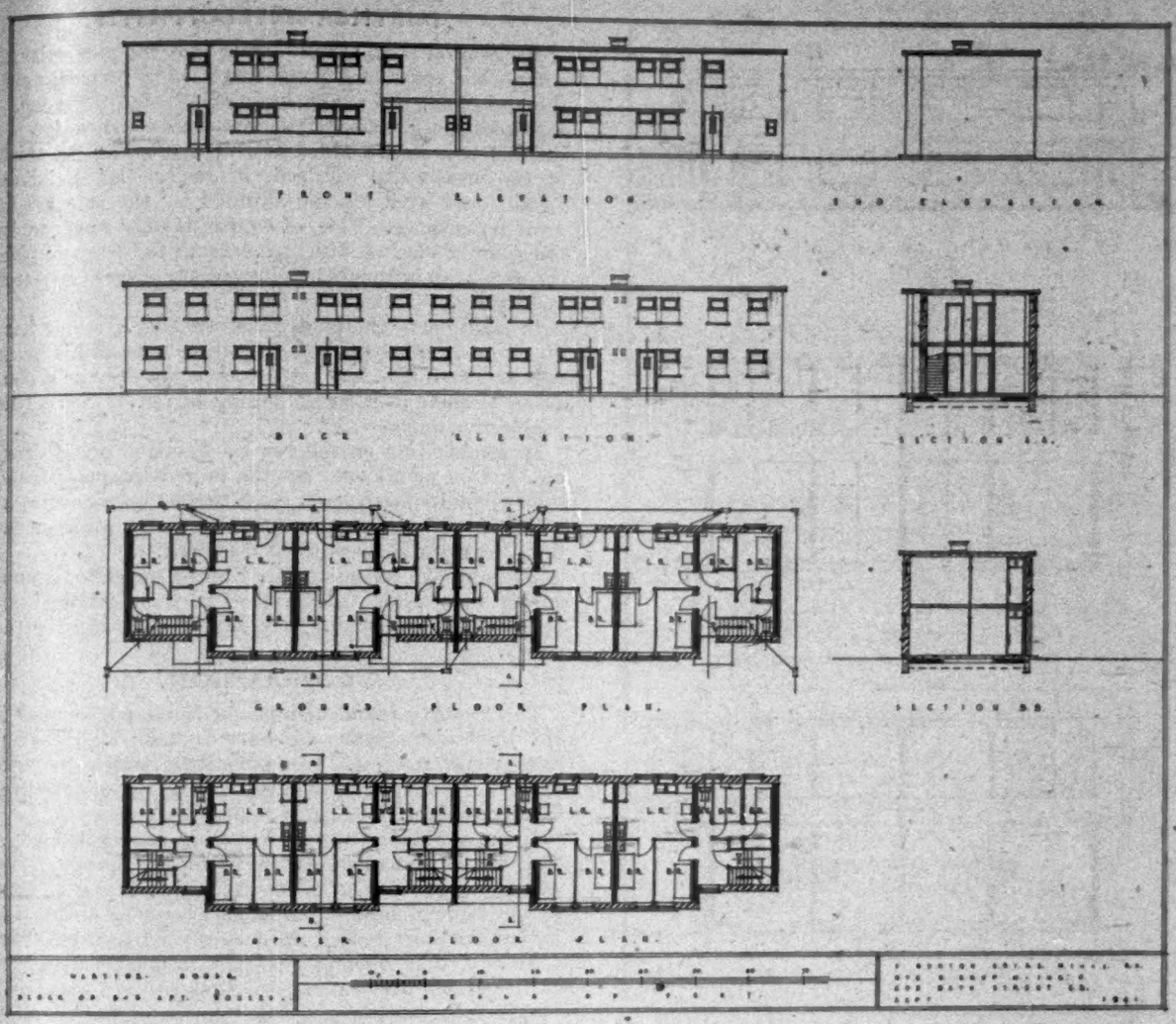


FIG. 7.—BLOCK OF WAR-TIME FLATTED COTTAGES.

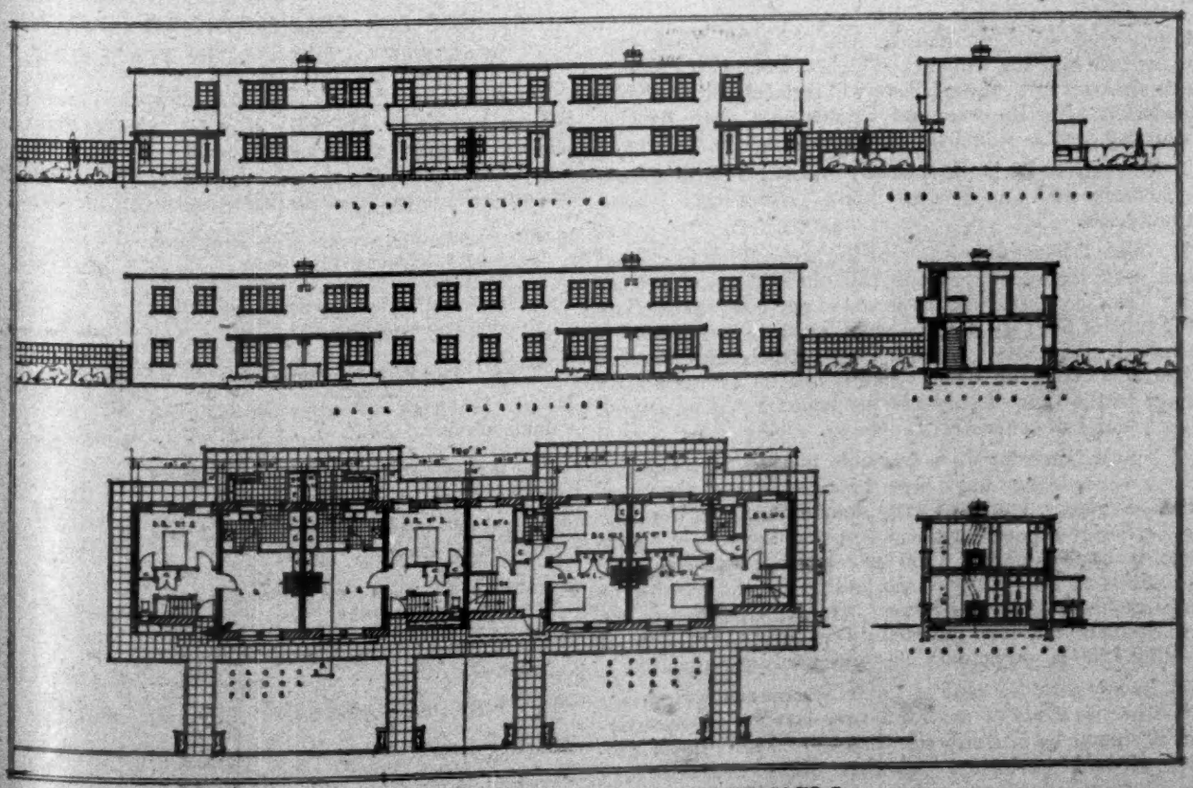


FIG. 8.—PEACE-TIME ADAPTATION OF COTTAGES SEEN IN FIG. 7.

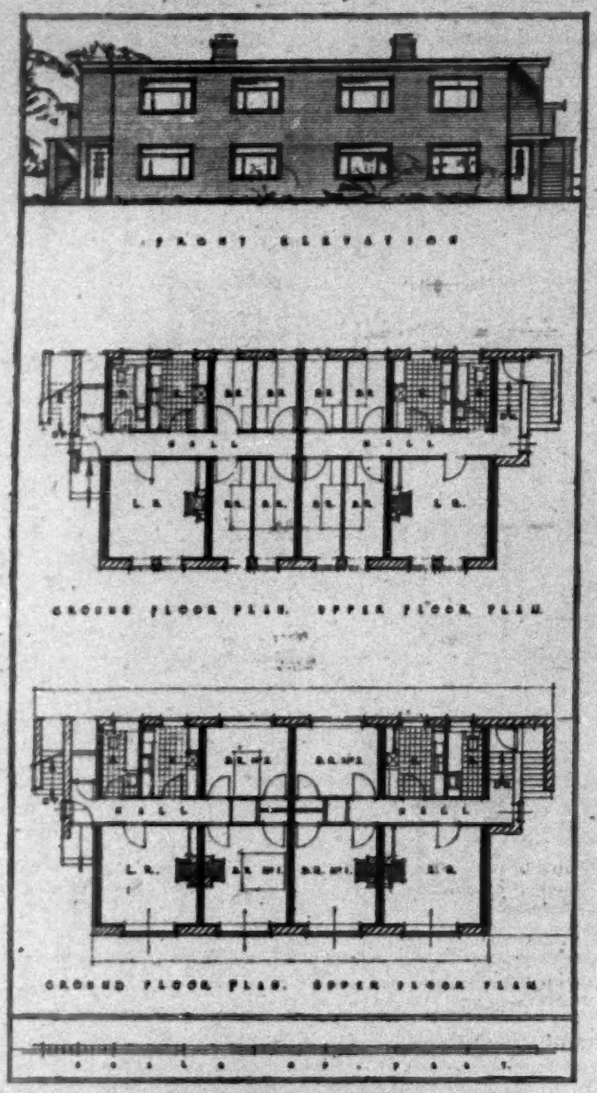


FIG. 9.—FLATTED HOUSE PLANS FOR WAR-TIME USE (above). ADAPTED FOR PEACE-TIME USE (below).

cost may well work out higher. On the other hand, the costs for new building will also be higher, whereas if "safe" houses are built now, these houses will certainly be available immediately after the war, and, furthermore, there will be no time lag such as would be inevitable with new building.

(2) The conversion work is chiefly devoted to finishes and will therefore make no demands upon "structural" labour and materials.

(3) "Safe" housing is intended for areas liable to enemy attack, and experience on the Clydeside has shown that each "blitz" causes damage to houses of pre-war construction to the tune of £100 per house—including the houses actually unaffected. In "safe" housing the structure is specifically designed to resist air attack, and it can be assumed that damage to the tune of only £10 per house would be caused by each series of concentrated attacks.

(4) "Safe" housing is a desirable method of rehousing persons whose houses have been damaged beyond the stage of first-aid repair, but not totally demolished. On the cash side, Clydeside experience has shown that the cost of heavy repair is approximately £260 per house. However, the possibilities of heavy repair are limited by the number of houses available. In many cases, the available houses are of an obsolete and even unhealthy type, and the wisdom of spending £260 to perpetuate obsolescence is questionable.

(5) In assessing the cost of "safe" houses in comparison with other methods of providing new housing accommodation, it should be remembered that the "safe" house provides air-raid protection, whereas other methods may necessitate additional expenditure on separate shelters.

FURTHER DEVELOPMENTS.

Mr. Bunton is of course aware that the particular hostel cottage and apartment plans illustrated by no means exhaust the possibility of variations of "safe" housing. For example, one great asset of cross-wall construction is that extra storeys can be added without increasing the thickness of the cross-walls. Indeed, in really high building the rigidity and wind bracing afforded by the cross-wall is of great importance. This, of course, is only considered from the point of view of structure. From the point of planning the cross-wall introduces an immediate element of simplicity and clarity.

In addition to the plans illustrated Mr. Bunton has produced many other plans during the course of his investigation and each plan has been studied not only as a plan but as an element in a large housing layout. (See Clydeside perspective on page 233.)

In commenting on the general question of safe housing, Mr. Bunton points out that the present proposal is that all rooms be fully protected. Such protection necessitates high slit windows which may be considered an unpleasant feature from the point of view of the occupant.

To meet this objection Mr. Bunton suggests as an alternative that while full protection is maintained in the bedrooms larger windows should be introduced in living-rooms.

CONCLUSION.

The Department of Health for Scotland, in considering Mr. Bunton's scheme, will have to take all these various factors into account. In view of Scotland's distinguished record for progressive thought and action, their decision is eagerly awaited.

If the principle of "safe" housing is accepted as a sure and economical method of protecting production man power, the question as to whether this housing be provided in the form of hostels for single people or flatted cottages for families must depend upon local conditions and demand.

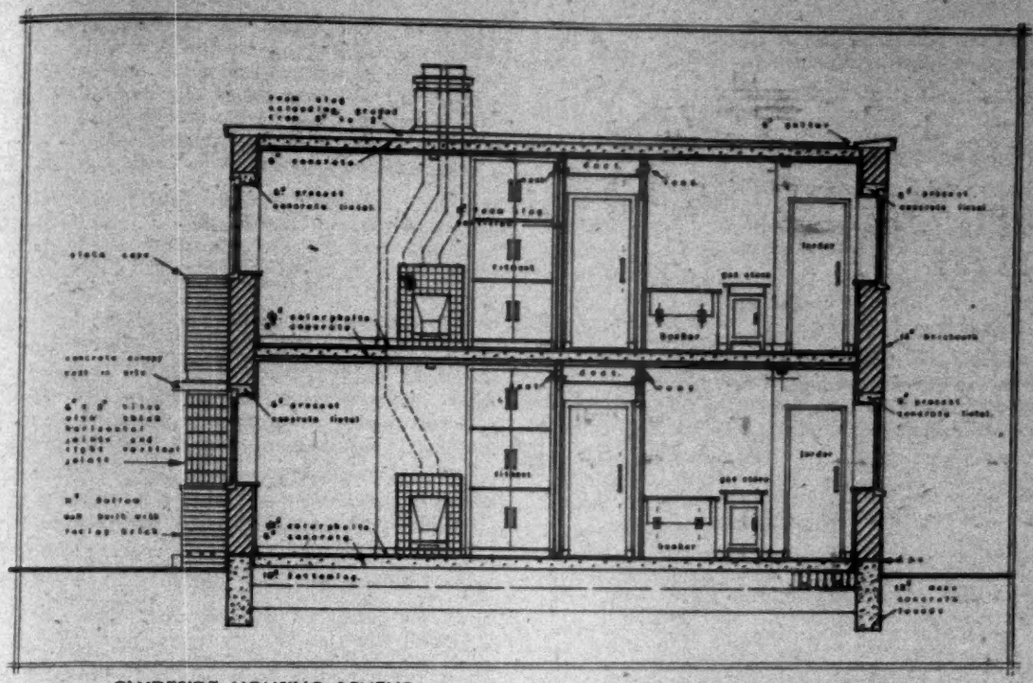
Finally, it is obvious that the problems arising out of enemy attack are common to all towns and areas affected, and therefore such a practical solution of war-time housing would be widely applicable.

"BULK" QUANTITIES

FOR ONE BLOCK OF EIGHT FIVE-APARTMENT FLATS SUITABLE FOR CONVERSION TO FOUR FIVE-APARTMENT COTTAGES IN PEACE TIME.

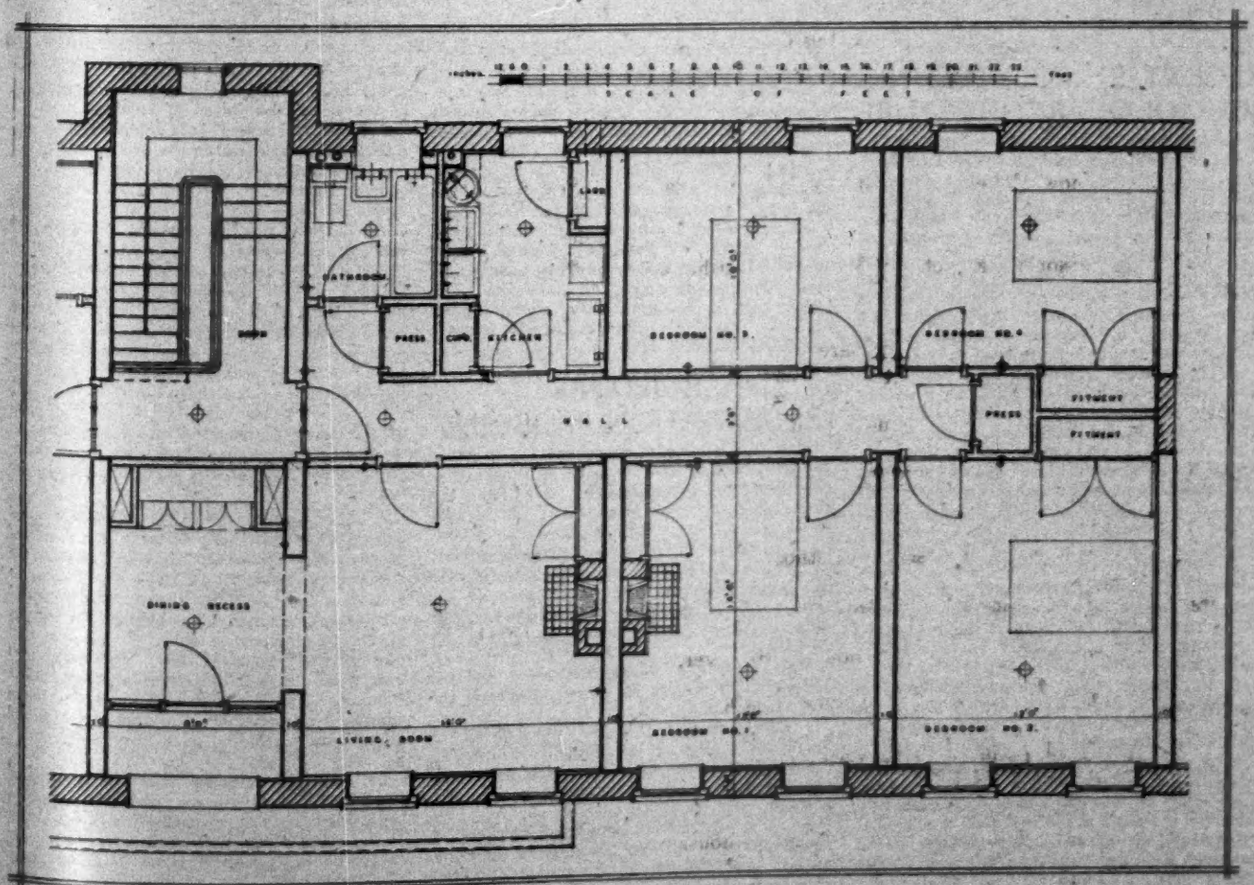
Following are "bulk" quantities worked out by Mr. Bunton and Mr. D. W. Miller, P.A.S.I., for the Flat-Cottage scheme, on which the prices given in our article have been based. The quantities should enable any Local Authority or Government Department to price the scheme for themselves.

Surface excavation average 9 in. deep and disposing of excavated material ...	Sup. Yds.	311
Excavation for surface trenches, including planking and strutting and ditto ...	Cub. Yds.	29
Concrete (1 : 3 : 6) in foundations	Do.	32
Rough formwork to edges of concrete foundations	Sup. Yds.	102
10 in. bed of hardcore blinded with ashes under floors	Do.	242
6 in. bed of concrete (1 : 2 : 4) spread and levelled as floor	Do.	242
Formwork to reinforced concrete walls, floors, roofs and stairs	Do.	1,362
½ in. mild steel reinforcing rods in foundations	Cwts.	3¾
No. 7 B.R.C. reinforcing fabric	Sup. Yds.	1,366
No. 6 do. do.	Do.	553
Concrete (1 : 2 : 4) in walls, floors, roofs, etc., filled into formwork...	Cub. Yds.	195



CLYDESIDE HOUSING SCHEME. FIG. 10.—"HALF-INCH" DETAIL OF HOSTEL: SECTION.

Lightweight concrete average 3½ in. thick, laid to falls in roof, including forming rainwater channels and outlets	Sup. Yds.	319
14 in. brickwork in cement mortar finished with a fair face on both sides and pointed as the work proceeds	Do.	442
4½ in. do. do.	Do.	18
4½ in. do. do. built against concrete walling	Do.	101
¼ in. mild steel reinforcing rods built into horizontal joints of brickwork	Cwts.	26½
10 in. by 6 in. precast concrete lintels, including boxing and reinforcement ...	Lin. Ft.	360
7 in. by 3 in. precast concrete cills... ...	Lin. Ft.	168
Ventilation openings in 14 in. brick walls, including 9 in. by 6 in. terra-cotta air brick externally and fine wire mesh and frame internally..	No.	8
2 in. breeze concrete partitions built in cement mortar including all labours, etc.	Sup. Yds.	350
3 in. do. do.	Do.	146
Hoop-iron ties for bonding brick walls or breeze partitions to concrete	No.	764
Bituminous damp-proof course to walls ...	Sup. Yds.	33



CLYDESIDE HOUSING SCHEME: FIG. 11—"HALF-INCH" DETAIL OF HOSTEL: PLANS.

Bituminous felt roofing, consisting of two layers of one-ply felt, including all labours	Sup. Yds.	327
½ in. cement and sand (1–3) screeding to floors	Do.	455
½ in. do. rendering to window-cills ...	Sup. Ft.	126
1 in. granolithic paving to entrance halls and landings	Sup. Yds.	13
1 in. do. to treads and risers of steps, including nosings	Sup. Ft.	277
6 in. by 1½ in. wrot splayed deal fascia plugged to eaves of concrete roof ...	Lin. Ft.	294
Wood pivot-hung sashes fitted with substitute glass and suitable ironmongery, including wood frames 3 ft. 4 in. by 1 ft. 6 in. overall and painting complete ...	No.	44
Do. do. 2 ft. by 1 ft. 6 in. do. ...	No.	12
Back entrance doors size 3 ft. by 7 ft. with frames, architraves, ironmongery and painting complete	No.	4
Entrance doors to flats, size 2 ft. 8 in. by 6 ft. 8 in. with frames, architraves, ironmongery and painting complete... ...	No.	8
Internal pass doors, size 2 ft. 8 in. by 6 ft. 8 in. with frames to suit 2 in. breeze partitions and ironmongery, and painting complete (no architraves)	No.	4
Do. do. with frames to suit 3 in. partitions do.	No.	8
Doors to w.c.s, larders, etc., size 2 ft. 6 in. by 6 ft. 6 in., with frames to suit 2 in. partition, and all as before	No.	16
Do. do. with frames to suit 3 in. partition do.	No.	8
Plain mopstick handrail to stairs, including brackets	Lin. Ft.	76
1 in. beaded pipe casing 18 in. girth with grounds and fixings	Do.	210
1 in. shelving, including bearers... ...	Sup. Ft.	342
Draining boards to sinks with bearers, etc., complete	No.	8
Rainwater pipe stacks 22 ft. long in all, comprising 3½ in. C.I. rain pipe with two bends at foot and lead outlet pipe at top fitted with lead flange and domical wire grating, brass ferrule and joint to iron pipe including holes through concrete roof and floor and 14 in. brick wall	No.	4
W.C. sets on ground floor with soil and vent pipe carried up to roof complete ...	No.	4
W.C. sets on first floor with soil and vent pipe carried up to roof complete ...	No.	4
Sets of combined tub and sink set above one another on ground and first floors with waste and vent pipes complete ...	No.	8
Allow for cold water supply pipes and service pipes to supply the foregoing fittings, including necessary builder's work.		
Living-room stoves set on ground floor with iron flue pipe to roof, including necessary builder's work	No.	4
Do. do. on first floor do. do. ...	No.	4
Allow for gasfitter's work to No. 8 gas cookers and do.		
Allow for electric lighting installation, do.		
Clearcolle and twice distemper on concrete ceilings	Sup. Yds.	474
Do. on brick walls	Do.	419
Clearcolle and twice distemper on concrete walls	Do.	573
Do. on breeze partitions, including first coating with cement slurry to fill up interstices	Do.	992
Treating cement floors with hot paraffin wax or bitumastic paint	Do.	455
Allow for rainwater and soil drainage.		
Allow for works to site, including extra digging due to levels, paths, etc.		
Allow for usual preliminaries, scaffolding, sheds, water and insurances.		

REGENT ST. POLYTECHNIC SCHOOL OF ARCHITECTURE

An exhibition of works by students of this school is now being held at Little Titchfield-street, W. Despite war conditions the exhibition is a large one and the work in all years, from the first to the fifth, is of a high standard. The subjects have been worked out with much thought and study. In the first and second year the subjects, naturally, are simpler and include a terrace housing scheme shown by working drawings and full-size details. A kiosk for a public park is also shown by drawings and an excellent model. A meals centre—an appropriate subject at the moment—is similarly shown. Another subject of current interest is a hikers' hostel. Third- and fourth-year students deal with such subjects as a public swimming-bath. Shown by a full set of drawings and an excellent model, this scheme includes a sun-bathing terrace and garden, a tea terrace, well-arranged dressing-rooms, etc. A memorial library, a museum and school of applied art and a repertory theatre are among other subjects, all thoroughly worked out. Modern ideas of design in solid and void are seen in the elevational treatment of these schemes.

Having reached the fifth year, students tackle subjects of much greater magnitude, such as a paper mill. The problem here, an unusual one, must have called for much research before planning. A scheme for replanning Messrs. John Lewis's premises is one of the most ambitious subjects. The design for a college of fine art is the combined effort of two students. The plan provides for a hostel, a concert hall, a school of architecture, principal's house, houses for the teaching and domestic staff; plans of the various blocks are shown. A brief notice cannot do justice to this clever scheme, which is shown by a fine model. A pottery at Poole, by a woman student, is another unusual subject shown by working drawings and a model. The kilns add to the elevational effect of the building, which is planned on an island site of triangular form, the main entrance facing the quay. Deserving of study for its original treatment is the scheme for the replanning of Stepney, shown by plans, sections and a good model. Lack of space prevents mention of other designs deserving of comment. The masters are to be congratulated on the success of their teaching. The exhibition remains open until Monday next.

BUILDING REGISTRATION PROBLEMS

Building and civil engineering contractors are reminded by the Ministry of Works that they must collect registration forms from the local offices of the Ministry of Labour, fill them in and return them to Sanctuary Buildings, 18, Great Smith-street, London, S.W.1, by September 12. It is hoped that Certificates of Registration or acknowledgments of the safe receipt of the Registration forms will be dispatched by the Ministry of Works by October 1.

The following points are made by the Ministry of Works in connection with the Registration :—

1. The scheme for the registration of builders, etc., is not concerned with offering employment to workmen. A man need only register if he is in business on his own account.

2. If a business is temporarily closed because of war conditions, application for registration should be made, by proxy, if necessary. A provisional certificate will then be issued suitably endorsed, and instructions given for notice to be given to the Ministry of Works of resumption of business.

3. Where a firm is engaged partly on producing articles or materials for sale and partly on the installation of its products, the firm should register in respect of such activities as are necessary for the installation of integral parts of buildings or structures. The particulars of employees and output required on Form B.C.E.3 should in such cases refer only to such part of the firms' output as is connected with installation; the employees concerned with the manufacture of the articles or materials used for the installation will not be included in the number of employees quoted, but the value of the output will include both the cost of actual installation and the value of the products used. Firms solely engaged in fitting equipment which does not become an integral part of the structure should not register.

4. Maintenance branches of estate companies employed wholly on maintenance of the property of the estate company should not register unless they undertake work of repair and/or redecoration for tenants under repairing leases, in which case they should register giving particulars on Form B.C.E.3 of this part of their business only. In cases, however, where a development company or estate company builds houses and sells them, whether or not they also undertake subsequent repairs and/or decorations, they should register.

5. There is evidence that the owners of small builders' businesses have been informed that this registration scheme implies a threat to the small man. This, of course, is not the case. The purpose of registration is to survey the capacity of the building industry as a whole, and implies no threat to anyone.

WAR-TIME BUILDING PRACTICE

By R. Cotterell Butler, A.R.I.B.A.

63—WAR-TIME AND POST-WAR REHOUSING: CONSTRUCTION—4.

THE majority of the materials reviewed in the two preceding articles of this series are capable of playing an important part in developed constructional technics, but at the present stage of development structural types characterised by the use of a predominating material may be reasonably comprehensively classified as follows:

BRICKWORK STRUCTURES: Buildings predominantly constructed of brickwork (clay and other types of brick), refractories, glazed tile building elements, etc.

CONCRETE STRUCTURES: *In situ* and prefabricated concrete structures of Portland cement light and dense concretes.

METAL STRUCTURES: Iron and steel structures, aluminium alloy structures, composite metal structures with framing as above, and panelling and/or roofing of other materials, such as copper, zinc and lead.

TIMBER STRUCTURES: Natural timber structures, laminated-board, plywood, and composite timber structures generally.

COMPOSITE STRUCTURES A: Composite structures formed by combining where most efficient or convenient the general types of material noted above.

COMPOSITE STRUCTURES B: Structures primarily formed of composite or synthetic materials other than those referred to above. In this category may be included structures based on the use of fibre, paper, and inorganic composition boards, plastics, plaster boards, and lightweight synthetic materials generally, such as asbestos-cement, etc.

In later articles contemporary construction and constructional developments will be discussed on the above basis, with their application to the sociological and general planning problems outlined earlier. But before considering war-time and post-war construction in detail a number of wider issues demand more attention than they have yet been given. The majority of these general considerations develop logically from an assumption that rehousing technics will largely be operated within a framework of national or even international organisation. Naturally this is no more than an assumption at present, but a very reasonable one, although the breadth and scope of co-ordinated national reorganisation will remain to be seen.

STANDARDISATION, PREFABRICATION, MASS PRODUCTION.

With large-scale organisation, standardisation and mass production techniques become essentially practicable propositions, and enable the economic advantages of prefabrication to be exploited to the full. It is probably true to say that as far as constructional matters are concerned a trend towards prefabrication based upon the practicability of co-ordinating supplies and structural technics generally is the predominantly important technical outcome of an organised building industry.

This subject has already been discussed in considerable detail,* and it is unnecessary to amplify its potentialities further at this stage, except to say that whatever may have been the rate of development of prefabrication without the present need for extensive rehousing having occurred, it is certainly the most important single technical question at the moment, and one which deserves the close attention of every technician in the building industry.

HOMOGENEOUS AND COMPOSITE CONSTRUCTIONS.

Owing to material limitations induced by general or local shortages, a tendency has frequently occurred for structures to be evolved using one class of material more extensively than might otherwise be the case. To take a typical example, timber has been employed very extensively for floor and roof construction in conjunction with traditional housing in brickwork. Owing to a shortage of timber, floors and roofs are now being constructed of reinforced concrete and reinforced brickwork.

Subject to certain limitations, each class of structural material tends to offer particular advantages for certain applications—*e.g.*, concrete for foundations — and the whole question of whether or not the design of structures primarily constructed of one class of material is a development to be encouraged is one which deserves careful consideration.

Generally, the controlling factors are the breaking down of local traditions through increased transport facilities, the development of large-scale national and international manufacturing organisations, and a growing tendency for design conformity, fewer local conditions influencing choice. Except, therefore, for the temporary restrictions introduced by war-time conditions, it lies more and more within the technician's power to choose for himself the extent of homogeneity in construction which is desirable.

STRUCTURAL AND ECONOMIC EFFICIENCY.—Assuming for the moment that supplies of all types of material are obtainable with equal economy (as far as transport facilities from the origination district are concerned) one can postulate that *it is in the best interest of constructional technique that each component part of a structure be fabricated of material best suited to the specific requirements of that particular component, as by this means the greatest general efficiency is obtainable.*

Now, one can agree that (within limitations) some types of material are pre-eminently suited to the requirements of specific structural components, and that increased development of national organisation of the building and allied industries makes it possible to specify without great regard for locality; nevertheless, there are certain additional factors which to some extent influence the adoption of a universal principle of composite construction.

LABOUR.—For many years building economists have been dead against the employment of "pennyworths of this and a pennyworth of that," or, to put it less colloquially, of employing a wide variety of materials in one job, thus involving many different trades. The economic reasons for this are sound and obvious, and it is reasonable to say that it is a principle—wherever economy means anything at all—which should be adhered to where individual building projects are concerned. But the principle does not necessarily hold good where large-scale prefabrication projects are in question.

To take a representative example: Laying a wood block floor is a specialist's field, and one which is rarely undertaken by the general contractor. Now, taking the instance of, say, a £1,000 house, it would hardly be sound economy to specify a 6 by 6 ft. dining-recess to be of wood block flooring (however desirable æsthetically) where the remainder of the floors in the whole house were linoleum. But where large-scale building projects are concerned the position is quite different, and "pennyworths" where required for structural or æsthetic purposes are entirely practicable.

CONSTRUCTIONAL ECONOMY.—Agreeing, shall we say, that concrete is a particularly suitable material for foundation construction, that protected steel has all the characteristics of an efficient frame material, that timber forms an efficient lightweight floor framing, that brickwork provides a most attractive outer wall finish, and pumice block an insulating inner wall material, then we might suggest that the results of a combination of all these elements, each being used where it is most efficient, would be a particularly satisfactory structure. This might be the case but would hardly be practicable economy for a single structure, though much more so for a large scheme. With large-scale organisation we may therefore expect much more freedom in the selection of suitable materials for specific building components.

INDUSTRIAL ORGANISATION.—Prior to this present time, ventures in large-scale prefabricated housing have usually owed their practical inception to the interests of a manufacturing organisation predominantly interested in a limited number of materials, and it is therefore quite understand-

* "Standardisation: The implications and possible effects of extensive standardisation in the Building Industry." *The Builder*, May 23, 1941, *et seq.*

able that *timber* housing, *concrete* housing, and *steel* housing have been the results.

Now this has not been by any means unfortunate, since it has resulted in considerable technical development, and there are many good reasons for homogeneity in so far as labour is less split up, and the designer, frequently being a specialist in the predominating material, has achieved a high level of efficiency.

THE NEED FOR INVESTIGATION.

Since it is obvious that materials are often quite suitable for more than one structural application, but that there is much to be said against *automatic* decisions to erect one-material structures, it would seem that one of the most important tasks of any organisation responsible for large-scale reconstruction would be the thorough investigation of the suitability of particular materials for particular structural application, in view of the practicability in a large-scale rebuilding programme of erecting structures economically, although each individual structure involved the use of many different materials and the employment of a variety of trades.

The extent to which any one particular material is suitable for wide use in domestic construction is not a matter which may be determined by infallible scientific reasoning. To take the example of concrete, for instance: Concrete is without doubt an excellent material for foundation construction, structural roofing, and floor construction; in conjunction with suitable insulating material it forms excellent walls, and is generally useful as a framing material. A limited number of fittings such as door and window frames, shelves, etc., may also be constructed of suitable concrete, and, to a limited extent, it may be used for the manufacture of service pipes and fittings.

Now to what extent does this justify the attention of the technician towards the development of the nearly all-concrete structure?

The advantages of a structure primarily employing one type of material are definitely considerable in spite of the case already set out for the use of materials for their predominately effective application.

In the first place, production, being confined to fewer trades, is simpler to co-ordinate. Secondly, widely different expansion and contraction differences are less frequent. Thirdly, by obtaining maximum structural continuity, higher efficiencies are possible. Lastly, by using the same or similar materials, the fitting of one component to another is greatly simplified.

Obviously, given sufficient ingenuity, it is possible—though not too practicable—to produce an entire structure together with some fittings and equipment in one type of material, but the extent to which this is justified depends solely upon the total advantages to be gained.

THE DEVELOPMENT OF READY-FINISHED STRUCTURAL ELEMENTS.

Primitive building consisted essentially of a series of structural elements selected to form a stable weather-resisting structure, sometimes with provision for thermal insulation. Gradually—in all probability almost from the first—man's love of craftsmanship encouraged him to add to the bare structural framework of his dwelling finishes and decorations which gave him pleasure. Similarly he, perhaps, discovered at an early date that some structural components withstood weather and use better if given certain ancillary treatments.

Modern design consists of evolving a suitable structural framework, and of rendering this resistant to corrosion and decay and pleasing to æsthetic conceptions. In many historical periods, and particularly at the present day, the æsthetic value of the structure itself has been realised, and designers have sought to eliminate purely ancillary treatments both for æsthetic reasons and to effect maximum economy. The development of methods of combining structural requirements in a building element with effective resistance to decay, and a pleasing form together with easy maintenance, is therefore a most important contemporary technical question.

Structural elements have often required the addition of extensive finishing treatments owing to their lack of precision or lack of precision in their erection. To take a typical example: Poorly laid, inaccurate bricks, forming the inner lining of a wall, demand a heavy covering of plaster, not only to increase weather-resistance and insulation, but additionally to provide a pleasing, hygienic, surface finish.

The development of brickwork having itself a high degree of weather resistance and thermal insulation and an accurately formed surface, necessarily reduces the ancillary operations required to a minimum, increases economic efficiency, and opens up a new field of æsthetic treatment.

In the same way, the development of corrosion-resisting steelwork, taking a pleasing and durable surface, the development of structural aluminium alloy elements attractive and corrosion proof, and so on, provide opportunities for increasing the economic efficiency of building construction.

Prefabrication building techniques, based upon extensive shop- as opposed to site-work, open up the possibility of combining structural and finishing requirements as never before, and can if properly organised not only increase the general efficiency of building as a whole, but afford entirely new possibilities of æsthetic development.

(To be continued.)

SCHOOL NEWS

THE WELSH SCHOOL OF ARCHITECTURE, THE TECHNICAL COLLEGE, CARDIFF.

Scholarships in Architecture.

The aim of the Welsh School of Architecture, the Technical College, Cardiff, is to encourage all-round development by means of a well-balanced curriculum. It is striving not only to reach a high standard in architectural design and draughtsmanship, but is also paying increased attention to the study of modern architectural construction, the production of working drawings and the preparation of essays and written theses. The School of Architecture has for the last 14 years been granted the status of "Final Recognition" by the R.I.B.A.,

Ten scholarships covering tuition fees and maintenance grants of £40 per annum for three years are offered to residents in certain districts of Wales and Monmouthshire for competition annually.

The Welsh School of Architecture has now been at work for rather more than 21 years under the charge of Mr. W. S. Purchon, M.A., F.R.I.B.A., the Chief Lecturer in Architecture being Mr. Lewis John, M.A., B.Arch., A.R.I.B.A.; and the Assistant Lecturers, Mr. L. B. Starling, A.R.I.B.A., and Mr. W. J. Phillips, Dipl. Arch.

The following local architects assist in the work of the advanced courses as honorary lecturers: Messrs. Percy Thomas, P.P.R.I.B.A., T. Alwyn Lloyd, F.R.I.B.A., P.P.T.P.I., Ivor P. Jones, A.R.I.B.A., J. Williamson, A.R.I.B.A., C. F. Jones, A.R.I.B.A., John W. Bishop, A.R.I.B.A., C. F. Bates, F.R.I.B.A.

The three years' full-time day course leads to the award of the certificate, to the holders of which the R.I.B.A. grants exemption from its Intermediate Examination, while those students who successfully pass through the Diploma course are exempted from the R.I.B.A. Final Examination, a special course of lectures on professional practice and a special examination in this subject being held in the school. Success in the Diploma course also forms a complete qualification for Registration under the Architects (Registration) Acts of 1931 and 1938.

A course leading to the Degree of B.Arch. has been arranged jointly by the University of Wales and the Welsh School of Architecture. This course is open only to matriculated students. There is also an Evening Atelier.

The external examiners are Professor L. B. Budden, of the University of Liverpool, and Professor R. A. Cordingley, of the University of Manchester.

The school year commences on Tuesday, September 30, but intending students are advised to apply at an early date for the particulars of the courses of instruction and of the Entrance and Scholarship Examinations.

GLASGOW SCHOOL OF ARCHITECTURE.

Students' Awards.

Awards made to pupils of the Glasgow School of Architecture, which is conducted jointly by the Glasgow School of Art and the Royal Technical College, are as follows:—

School Diplomas.—Robert S. Carmichael, Robert Sutherland.

School Certificates.—Alexander Farquhar, Alastair A. Taylor, James N. M'Kelvie.

Candidates for Intermediate Exemption.—David L. Baird, James T. Knox, Sushil Mallick; also, Elizabeth M'Laren and Peggy D. Brataas (subject to satisfactory completion of measured drawings).

Bourdon Memorial Studentship.—Alastair A. Taylor.

A. Leslie Hamilton Studentship.—Robert S. Carmichael.

Silver Medallion.—Elizabeth M'Laren.

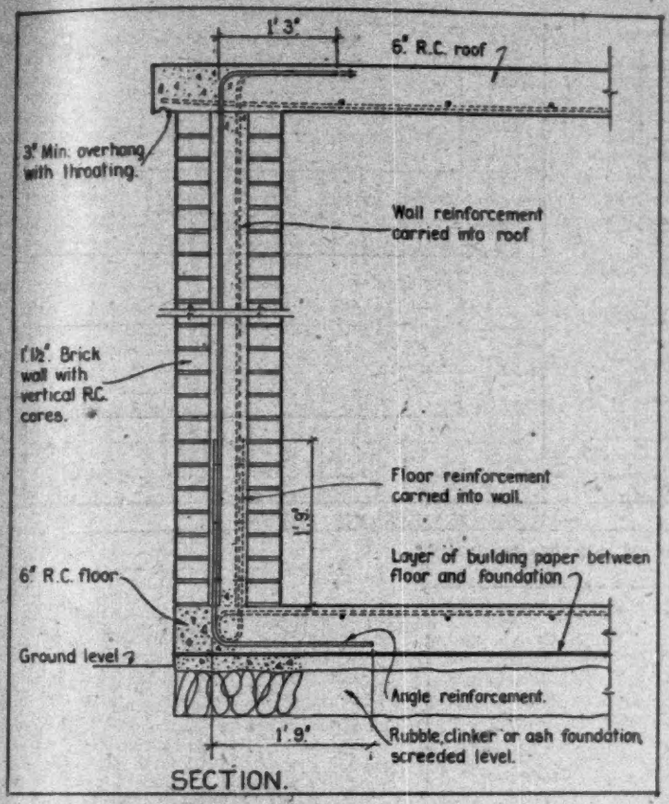
Bronze Medallions.—Margaret H. Aitken, Jeffrey Rowbotham, Peter L. A. Williams, J. M. Gilmour.

Whitelaw Silver Medallion.—James N. M'Kelvie.

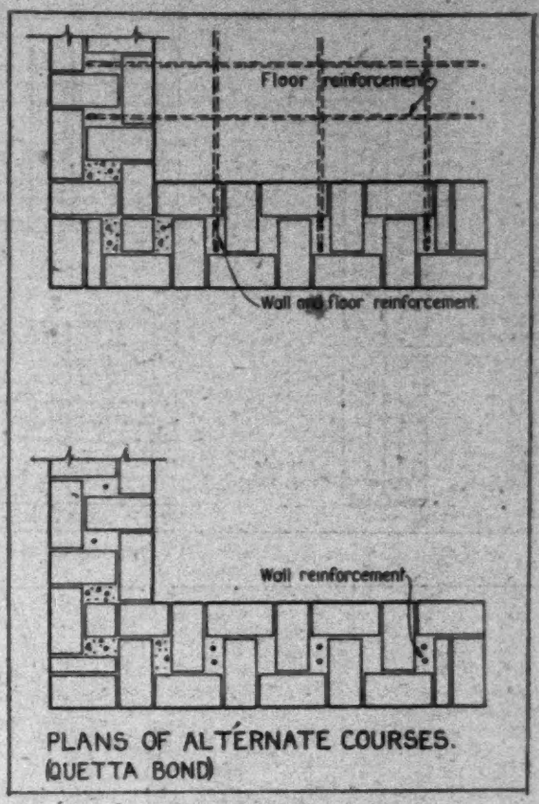
Whitelaw Bronze Medallion.—David Rew.

J. B. Wilson Book Prize.—Peter L. A. Williams.

Institute of Architects' Prizes.—Drawing: James T. Knox; measured drawings: not awarded; design: not awarded.



SECTION THROUGH REINFORCED WALL (QUETTA BOND).



PLANS OF ALTERNATE COURSES (QUETTA BOND).

REINFORCED BRICK WALLS FOR SURFACE SHELTERS

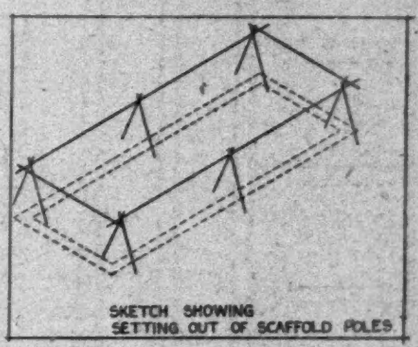
HOME SECURITY BULLETIN.

The Ministry of Home Security has issued a Bulletin (C.20) on "The Construction of Reinforced Brick Walls for Surface Shelters and Similar Protective Buildings." The text of this is as follows :—

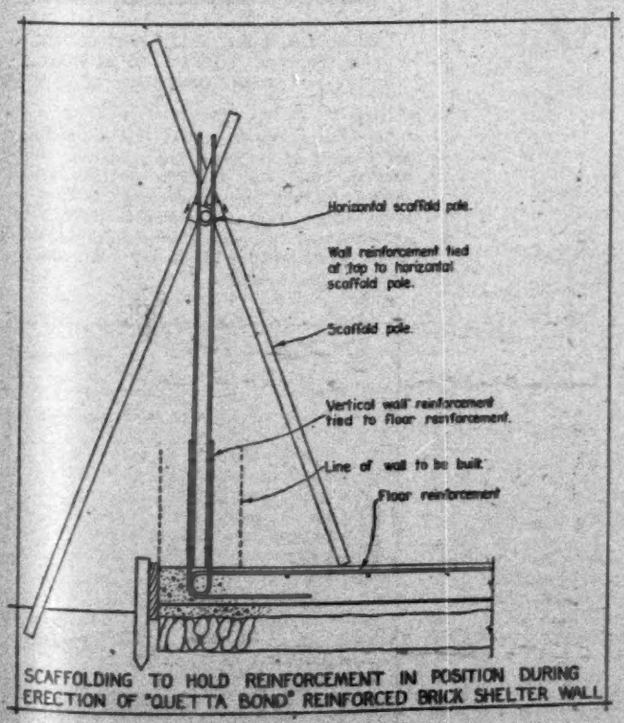
An objection sometimes raised against the use of reinforced brickwork for surface shelters is the difficulty of erection. No difficulty arises if the reinforcement is properly supported while the building is in an early stage.

Home Security Circular No. 290/1940 introduced a design for a surface shelter using vertically reinforced brickwork walls in place of ordinary brickwork. The brickwork of this design was in English bond and the reinforcement was not connected to any foundations or floor slab, the walls being built on a sliding course.

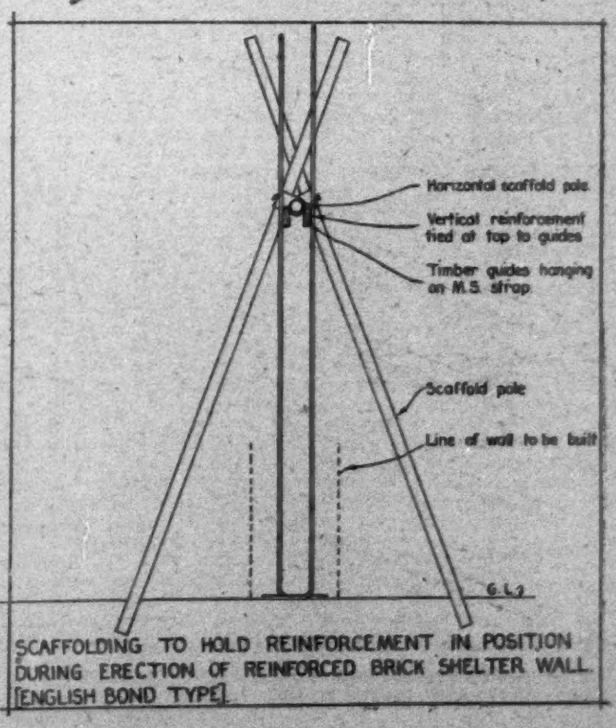
Experience has shown, however, that the extra cost involved in providing the shelter with its own floor is amply justified by the increased protection afforded. The principle of a sliding course is maintained, but the course is now placed below the floor of the shelter, so that the shelter forms a complete box and has therefore much greater lateral strength than the earlier portal form.



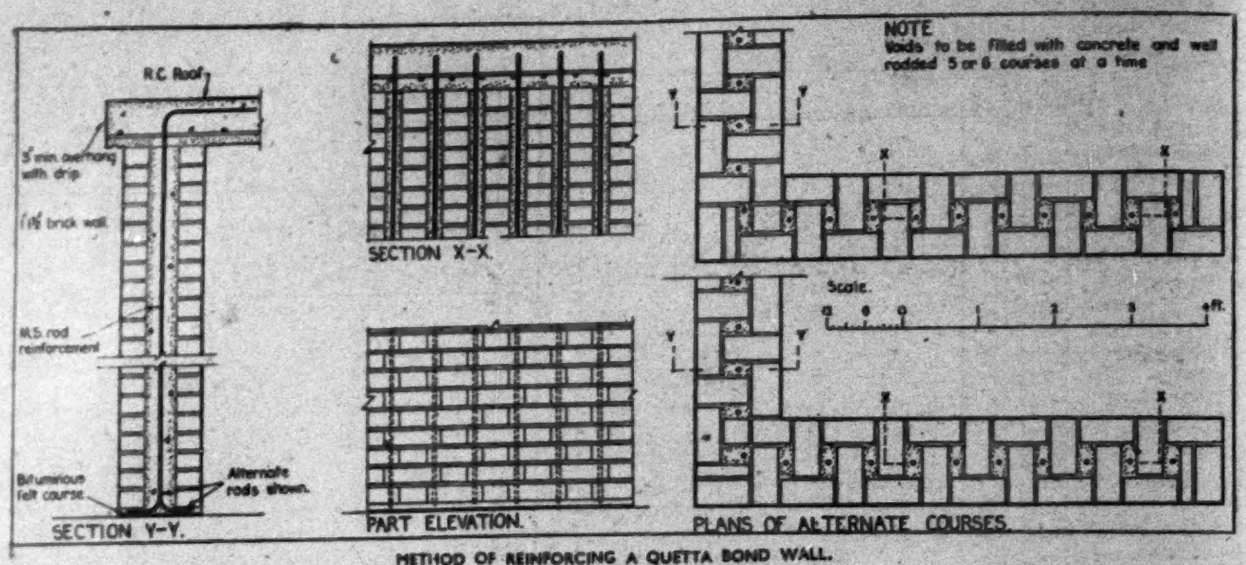
SKETCH SHOWING SETTING OUT OF SCAFFOLD POLES.


Horizontal scaffold pole.
Wall reinforcement tied at top to horizontal scaffold pole.
Scaffold pole.
Vertical wall reinforcement tied to floor reinforcement.
Line of wall to be built
Floor reinforcement

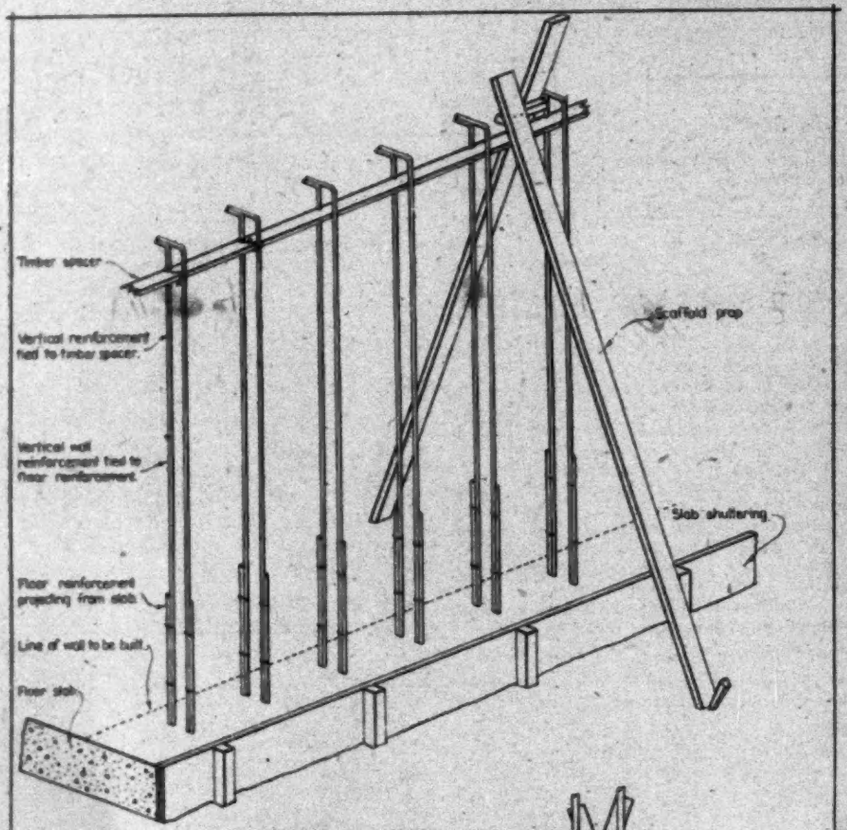
SCAFFOLDING TO HOLD REINFORCEMENT IN POSITION DURING ERECTION OF "QUETTA BOND" REINFORCED BRICK SHELTER WALL.


Horizontal scaffold pole.
Vertical reinforcement tied at top to guides
Timber guides hanging on M.S. strap
Scaffold pole
Line of wall to be built
G.L.

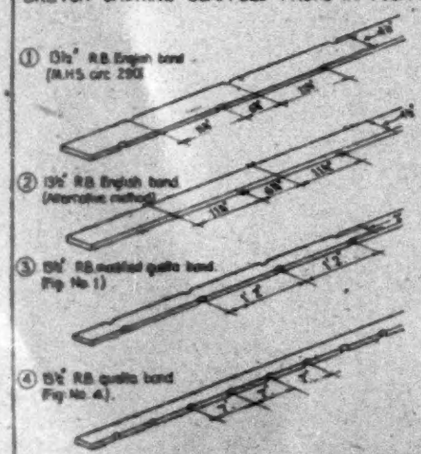
SCAFFOLDING TO HOLD REINFORCEMENT IN POSITION DURING ERECTION OF REINFORCED BRICK SHELTER WALL. [ENGLISH BOND TYPE].



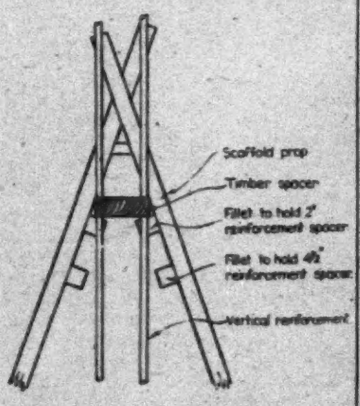
METHOD OF REINFORCING A QUETTA BOND WALL.


Timber spacer
Vertical reinforcement tied to timber spacer.
Vertical wall reinforcement tied to floor reinforcement.
Floor reinforcement projecting from slab
Line of wall to be built
Floor slab
Scaffold prop
Slab shuttering

SKETCH SHOWING SCAFFOLD PROPS IN POSITION.


① 13½" R.B. English bond (M.H.S. ctrs 2'0)
② 13½" R.B. English bond (Alternative method)
③ 13½" R.B. modified quetta bond (Fig. No. 1)
④ 13½" R.B. quetta bond (Fig. No. 4).

DIMENSIONS FOR TIMBER SPACERS FOR VARIOUS R.B. BONDS (Not to scale)

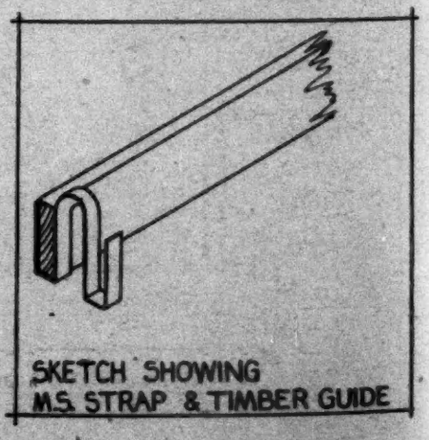


DETAIL FOR HOLDING TIMBER SPACER IN POSITION

TIMBER SCAFFOLDING TO HOLD REINFORCEMENT IN POSITION DURING ERECTION OF REINFORCED BRICK SHELTER WALL.

REINFORCED BRICK WALL. FIRST COURSE LAID, SHOWING POCKETS TO BE FILLED WITH CONCRETE.

The designs given in this Bulletin simplify the placing of the wall reinforcement. With English bond the positions of the vertical reinforcing rods cannot be varied, as they are fixed within very narrow limits by the bonding system, and some other form of bond giving more latitude in placing was necessary



SKETCH SHOWING M.S. STRAP & TIMBER GUIDE

to facilitate continuity between floor and wall. The bonding of the brickwork is chosen so that there can be some small tolerance in the placing of the floor reinforcement allowing room for the bars coming up from the floor to be lapped over the bars in the wall. Since brick sizes differ in different parts of the country, care must be taken to space the floor reinforcement to suit the brick size used.

Two methods are described, adaptable to any length of wall for supporting the reinforcement while building is in progress. The equipment can be reused indefinitely.

Two-inch tubular steel scaffolding is erected in suitable positions across the walls to hold a 2 in. horizontal scaffold pole about 5 ft. high over the centre line of the wall. The vertical reinforcement is tied to the projecting floor reinforcement and to the scaffold pole above. One figure shows the reinforcement for "Quetta bond" type of wall held in position on the scaffold. A similar method can be applied to the other forms of Quetta bond type of wall, but in one case there is only one line of reinforcement to hold. This will make it necessary for the side of the horizontal pole to be over the centre line of the wall.

For the English bond wall shown in Home Security Circular 290/1940 the rods are widely spaced across the width of the wall.

It will be necessary, therefore, to arrange some form of packing out on the 2 in. horizontal pole. This can be done by suspending 3 in. by 1½ in. timber guides in lengths on iron straps hung over the horizontal pole so that the overall width between the outside edges of the timbers equals the distance apart of the rods. The rods are placed to suit the joints of the brick bond and tied together temporarily over the timber guides to hold them in position.

The higher the wall is built before the scaffolding is removed the better. The position of the horizontal scaffold pole varies with different types of brick bonding.

The use of steel scaffolding has been suggested since it is most easily handled when a number of similar shelters have to be built and can be reused many times without deterioration. Where scrap timber is abundant a satisfactory alternative scaffold system can be used, as shown in one of the illustrations. The method of holding the reinforcement is similar to that of the tubular system, but as an additional facility the positions of the reinforcement are fixed by means of notches in the timber spacers, or, alternatively, by two nails.

OBITUARY

Professor A. C. Dickie, M.A., A.R.I.B.A.

We regret to record that Mr. A. C. Dickie, M.A.(Mancr.), F.S.A., A.R.I.B.A., Professor of Architecture in the University of Manchester from 1912 to 1933, and then Professor Emeritus, died suddenly in hospital in London on September 3.

Born in Dundee in 1868, Archibald Campbell Dickie was the son of the late Mr. Charles Dickie. He was educated privately and at the Architectural Association School, London, where he won the Studio 3rd Year Medal in 1893, afterwards being apprenticed to Carver and Symon, of Forfar. From 1894 to 1897 he was architect to the Palestine Exploration Fund, and had been a member of the executive committee since 1906, and secretary from 1910 to 1912. He was master in design at the Architectural Association School from 1906 to 1911, leaving to take up the Professorship in the Manchester School. His publications included "Excavations in Jerusalem, 1894-97" (Bliss and Dickie); and numerous articles on archæology and architecture.

From 1898 until 1911 he was in private practice and designed Roman Catholic churches at Clapham and Lewisham and a Mission Hospital at Hebron, Scotland (with Mr. Kelly); and a house at The Hague (with Mr. Scott). He also was responsible for the interior decorations of Petersham Memorial Church.

MILITIA CAMPS

COMMITTEE OF PUBLIC ACCOUNTS' REPORT.

THE conclusion that "the expenditure on militia camps was not exceptional when compared with other cases they have reviewed of works services where urgency was the dominant factor" is reached by the Committee of Public Accounts in a report presented to Parliament and now published (Stationery Office, 6d. net).

"In view of the public comment on militia camps expenditure," the Committee have been at pains to ascertain to what extent the sum of £20,000,000 mentioned in the Supplementary Estimates of July 10, 1939, and the total expenditure of some £22,750,000 charged against this item in the accounts covered the same services.

The War Office (the Report continues) explained that the estimate of £20,000,000 was based on the Financial Secretary's figure of £25,000,000 modified in the light of later expectations. It covered: (a) Accommodation in camps and extensions to barracks for 88,000 Militiamen; and (b) a margin for accommodation in future years, if the size of the intake required it, and for ancillary services, e.g., hospitals, ranges, etc.

The expenditure of £22¾ million is made up as follows: (i) £3,000,000 for 12,000 men in searchlight battery camps; (ii) £3,750,000 for 38,000 men in extensions to barracks; and (iii) £16,000,000 for 50,000 men in new militia camps. The numbers (100,000) accommodated refer to the pre-war scale of floor space allowed—130,000 are accommodated on the war-time scale.

Excluding the expenditure of £3,000,000 for searchlight battery camps for which no provision was made in the estimate, the actual expenditure comparable with the estimate figure of £20 million was £19¾ million, but this sum did not include any expenditure upon accommodation for the additional intake mentioned under (b) above, which was merged in the War hutting programme. Accommodation was thus in fact provided for 88,000 men on the pre-war scale of floor space, at a cost of £100 a head for extensions to barracks and £320 a head for camps, including certain ancillary services. No precise comparison can, however, usefully be made between these figures and the estimated figure of £150 taken for both categories. That figure appears to have been in the nature of a rough average rather than a considered estimate, and in this connection it is noted that the Admiralty, who had to provide similar camps on a smaller scale, reported to the Treasury, in the light of tenders received by them before the outbreak of war, a revised figure of £220 a head for their camps.

The Committee were, however, furnished with certain details of the expenditure of £16,000,000 on the new militia camps in regard to which some exaggerated figures have been given publicity. Starting from the sum of £7,500,000 (50,000 men at £150 a head), which formed part of the £20 million mentioned in the Supplementary Estimate, the War Office stated that the difference of £8,500,000 could be accounted for approximately as follows:—

Cost of additional buildings and excavation not included in the Estimate, £3,750,000; subsistence allowances and transport of labour to out-of-the-way sites, £1,000,000; overtime in order to accelerate progress and increases in wages rates, £1,000,000; and excess cost due to the wet summer, £170,000. These items total nearly £6,000,000, leaving £2,500,000, a part of which may be attributed, although no arithmetical value can be assigned, to the use of unusual numbers of workmen in order to ensure speed, rise in the cost of materials, the premature occupation of camps by troops and the erection of temporary camps to house workmen.

In considering the expenditure on these camps it is necessary to call attention to two unusual features, the form of contract and the method of supervision, adopted by the War Office:—

Form of Contract.—Normal competitive tendering was impossible in view of the early date required for the completion of the camps. The period allowed was of the order of three months. No time was available to draw up specifications or even, in many cases, to survey the sites, which were selected with regard to strategic considerations rather than to building possibilities. The War Office therefore invited selected contractors to quote a fee to cover overheads and profit, according to an assumed range of expenditure. While the contractor was to be paid the costs of construction actually and necessarily incurred, competitive tenders were invited for the fee to ensure that undue profits were not made.

Supervision.—As the Royal Engineer organisation was fully occupied with other works services, the War Office entrusted the supervision of these camps to quantity surveyors from firms recommended by the Chartered Surveyors' Institution. The responsibilities of these quantity surveyors included general supervision of the work on behalf of the War Office, the passing of bills and the inspection of the work for quality.

Conclusions.

The following points appear to the Committee to emerge:—

(i) The fact that a conjectural estimate is exceeded does not necessarily mean that expenditure is wasteful. An alternative explanation may be that there has been an under-estimate of the cost.

(ii) It is recognised that under the conditions of urgency prevailing in 1939 there was no time available to place the contracts on any other than a cost plus fixed fee basis. No useful purpose can therefore be served by a discussion of alternative forms of contract.

(iii) As regards the system of control the Comptroller and Auditor General has drawn attention to similar excesses on works services for which other methods of control were adopted, including certain important works in which the supervision, and in some cases the planning and design also, were entrusted by the Departments concerned to business agents of wide experience.

(iv) There seems little doubt that part of the variations between the costs of different camps was due to variations in the general efficiency of the contractors. As to this it must be borne in mind that the employment of a number of contractors was necessary in order to cope with the volume of the work. As an example of the varying efficiency of building contractors generally, the Committee note that during a short period in 1940 when the War Office found it possible to let a number of contracts on lump-sum competitive tenders and obtained very good prices, these prices showed variations which ranged from 1¾ per cent. to 25¾ per cent. below their estimates.

(v) Generally, it seems clear that costs were higher than normal owing to the necessity for speedy construction, but this necessity was accepted by the Treasury.

Having regard to these considerations the Committee are of opinion that the expenditure on militia camps was not exceptional when compared with other cases they have reviewed of works services where urgency was the dominant factor. But they are anxious that the occasions shall be as few as possible, and that the unfortunate results shall be reduced to a minimum. The Treasury have directed, following the recommendation of the Public Accounts Committee of 1940, that Departments should draw specific attention to cases where in their opinion urgent public requirements make it necessary to embark on works services on the basis of a conjectural estimate only. "Your Committee," concludes the Report, "trust that in all such cases careful consideration will be given before the need for speedy construction is also accepted. Haste is almost certain to involve extravagance. Where haste must be accepted as an overriding factor, supervision becomes an especially important element in the avoidance of waste. Your Committee are glad to learn that, in the light of the experience of the militia camps, the War Office recognised the need for improved supervision, and so far as in present circumstances the necessary technical staffs can be secured, have adopted various recommendations made by an advisory committee set up by them to consider that aspect of the question."

LANDLORD AND TENANT (WAR DAMAGE) (AMENDMENT) ACT, 1941—2

By W. T. CRESWELL, K.C.

THE Act contains many important and far-reaching amendments of the principal Act, that is, the Landlord and Tenant (War Damage) Act, 1939, which were made necessary by the passing into law of the War Damage Act, 1941.

Conditional Notice of Retention.

It will be recalled that where any land covered by a lease has been rendered unfit by reason of war damage, the tenant, under the principal Act, is given the right to serve on his landlord a "notice of disclaimer" or a "notice of retention." Now, by the Amending Act of 1941, if a notice (served by the tenant of land which is rendered unfit for its purpose by war damage) contains a statement that the notice is conditional and that it will be treated as a notice of disclaimer if the War Damage Commission determines to make a value payment (that is, a payment for diminution in value equal to the difference in value before damage and after damage), under Part I of the War Damage Act, 1941, in respect of the war damage, such notice is to be regarded as a "conditional notice of retention." A copy of the notice must also have been sent to the War Damage Commission within one month from the service of the notice on the landlord.

When the War Damage Commission have settled whether a payment of cost of works (that is, the actual cost of works of repairs executed, provided that the works and cost are reasonable) or a value payment is to be made, they are to serve a notice on the tenant stating this determination.

If the Commission determine to make a value payment, then, from the date of such determination, the conditional notice of retention is to be treated as a notice of disclaimer; and the lease so disclaimed is to be deemed to have been surrendered. Also, any sub-lease derived from such lease is to be deemed to have been surrendered. One month, or such longer period as the Court may allow, is allowed the landlord in which to serve on the tenant a notice to avoid such a disclaimer.

It will be remembered that the Court has power, under section 9 of the principal Act, to modify the operation of a notice of disclaimer upon an application (within the time allowed for a notice to avoid disclaimer) by any person having an interest in, or derived from, the disclaimed lease, or an interest in the immediate reversion thereof.

Within 14 days of the date of determination of the War Damage Commission the tenant must serve on the landlord and on all other persons claiming an interest in the land concerned and which is immediately under the tenancy (such as assignees, mortgagees, or lessees) a notice that the conditional notice of retention is to be treated as a notice of disclaimer. Such persons shall likewise, within 14 days from the receipt by them of this notice, serve upon every person who has immediately derived from them an interest in the land comprised in the lease, or to whom they may have assigned any immediate interest, a notice stating the terms of this notice as received by themselves. Failure to comply entails the making good to any other person affected whatsoever damage that person may suffer owing to this failure.

Under section 10 of the principal Act, the effect of a notice of retention was that the tenant came under an implied covenant with the landlord to render the land fit as soon as practicable, his rent being remitted in the meantime. Now, under the amending Act, where a tenant has served a conditional notice of retention, or where his notice takes this nature by the determination of the Commission, this obligation is (pending the decision of the War Damage Commission as to the kind of payment they will make) to be limited to an obligation: (1) to execute only such works arising from the damage as are reasonably practicable and immediately necessary; (2) to take such steps as may be necessary from time to time for the convenience of the Commission in making their determination; (3) to take such steps as are reasonably practicable to secure that, if the Commission determine that the payment is to be a payment of cost of works, the necessary works shall be executed without delay.

The Court may order that the tenant shall pay rent as they shall determine, if he delay unreasonably to render the land fit. (See section 10 of the principal Act.)

(To be continued.)

ROOFING SLATES

HOW TO OBTAIN SUPPLIES.

THE following notice is issued by the Ministry of Works:—

Since February, 1941, the slate quarrying industry has been operating under the direction of the Ministry of Works and the Slate Quarries Executive Committee, whose address is: Port Penrhyn, Bangor, North Wales.

Instructions have been issued by the Director of Roofing, Ministry of Works, indicating the method to be followed when supplies of roofing slates are required, and in accordance with these instructions, announces the Slate Quarries Executive Committee, slates are only supplied for Government priority work and for urgent air raid damage repairs.

Orders should be placed through local merchants, who must obtain a permit from the local Assistant Director of Emergency Works or the Emergency Works Officer of the Ministry of Works, or from the Reconstruction Panel of the Ministry of Aircraft Production. A permit should be sent with each order to one of the following committees:—

Cornish Slate Quarries Regional Committee, Delabole, Cornwall.

Welsh Slate Quarries Regional Committee, Port Penrhyn, Bangor, N. Wales.

Westmorland Slate Quarries Regional Committee, Martins Bank Chambers, Keswick-on-Derwentwater.

The Regional Committee will arrange for delivery to be made from the quarry best able to supply, or may transfer orders to another committee if necessary.

The demand for roofing slate has eliminated all stocks of large sizes, and the officers issuing permits have been instructed to arrange for the use of small sizes wherever possible, as these can be delivered from stock in each region.

Merchants and contractors are asked to co-operate in the use of small sizes of slates, as it is only by this means that the slate quarrying industry can meet the heavy demands due to air raid damage.

List of Assistant Directors of Emergency Works and Emergency Works Officers.

S.E. AREA—REGIONS 4, 6 AND 12.

Reading.—A.D.E.W., P. Paget, 97-98, Broad-street, Reading, Reading 2485; E.W.O., J. Seely, 97-98, Broad-street, Reading, Reading 2485.

Southampton.—E.W.O., J. B. Brandt, 18, Archers-road, Southampton, Bassett 68401.

Cambridge.—E.W.O., E. J. Cook, Block A, Bishop's Hostel, Trinity College, Cambridge, Cambridge 55206, Ext. 137.

Tunbridge Wells.—E.W.O., R. Bostock, 62, London-road, Tunbridge Wells, Tunbridge Wells 3325.

MIDLANDS AREA—REGIONS NOS. 3 AND 9.

Birmingham.—A.D.E.W., H. N. North, Somerset House, Temple-street, Birmingham, Midland 6561; E.W.O., G. H. J. Gillings, c/o Reconstruction Panel, Phœnix Chambers, Colmore-row, Birmingham, Central 1901.

Coventry.—E.W.O., R. L. Raikes, c/o Rootes Securities, No. 2 Engine Factory, Ryton-on-Dunsmore, Coventry 4757.

Leicester.—E.W.O., J. W. Allsop, 53, London-road, Leicester, Leicester 22142.

Nottingham.—E.W.O., W. Andrews, 14-16, Alexandra-street, Carrington, Notts, Nottingham 6213, Ext. 16.

Wolverhampton.—E.W.O., R. I. Warwick, 3, Queen's-street, Wolverhampton, Wolverhampton 24932.

NORTH-WESTERN AREA—REGION No. 10.

Manchester.—A.D.E., J. L. Paterson, Britannic House, Fountain-street, Manchester, 2, Deansgate 4343, Ext. 81 or 83; E.W.O., A. H. Walker, Britannic House, Fountain-street, Manchester, 2, Deansgate 4343, Ext. 81 or 83.

Liverpool.—E.W.O., T. N. Shepherd, 81, Dale-street, Liverpool, Royal 5219.

Ulverston.—E.W.O., E. N. Evelegh, 3, Benson-street, Ulverston, Ulverston 442.

Chester.—E.W.O., H. J. Paton, 6, St. John's-street, Chester, Chester 3290.

SCOTTISH AREA—REGION No. 11.

Edinburgh.—A.D.E.W., Stewart Kaye, 35, Manor-place, Edinburgh, Edinburgh 33941; E.W.O., R. Hurd, 35, Manor-place, Edinburgh, Edinburgh 33941.

Glasgow.—E.W.O., J. A. Wotherspoon, 18, Gordon-street, Glasgow, C.1, Central 6401; night, Eaglesham 293.

Aberdeen.—E.W.O., R. O. Rollo, 146, Union-street, Aberdeen, Aberdeen 231.

LONDON AREA—REGION No. 5.

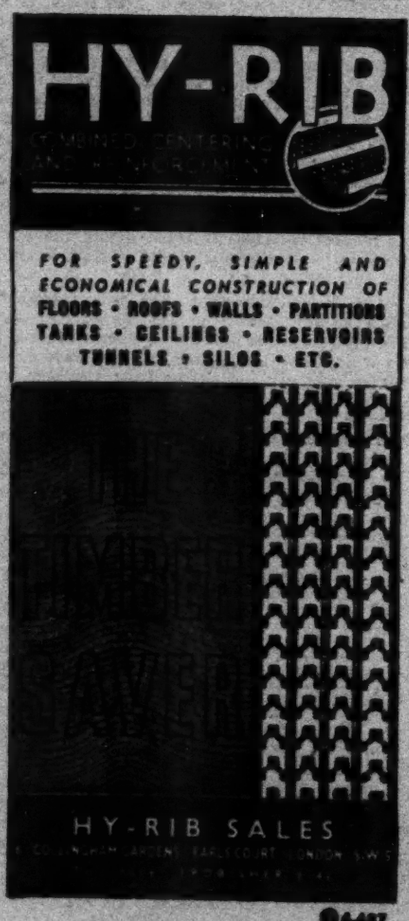
London.—A.D.E.W., J. M. Wilson, Lambeth Bridge House, London, S.E.1, Reliance 7611, Ext. 2064,; E.W.O., C. G. Lynam, Lambeth Bridge House, London, S.E.1, Reliance 7611, Ext. 2052; E.W.O., B. Chessum, Lambeth Bridge House, London, S.E.1, Reliance 7611, Ext. 2052; E.W.O., M. W. Hudson, Lambeth Bridge House, London, S.E.1, Reliance 7611, Ext. 2062; E.W.O., E. D. Solway, Lambeth Bridge House, London, S.E.1, Reliance 7611, Ext. 2050; E.W.O., E. Carr, Lambeth Bridge House, London, S.E.1, Reliance 7611, Ext. 2066.

SOUTH-WESTERN AREA—REGION No. 7.

Bristol.—A.D.E.W., L. Scott White, 19, Elmdale-road, Bristol, 8, Bristol 33330; E.W.O., S. Cox, 19, Elmdale-road, Bristol, 8, Bristol 33306.

Plymouth. — E.W.O., A. Marshall, M.O.W.B., Compton Park House, Tavistock-road, Mannermead, Plymouth, Plymouth 61630.

Gloucester.—E.W.O., G. Tomalin, 30, Clarence-street, Gloucester, Gloucester 4817.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FOR SPEEDY, SIMPLE AND ECONOMICAL CONSTRUCTION OF
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TANKS • CEILINGS • RESERVOIRS
TUNNELS • SILOS • ETC.
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6487

WALES AREA—REGION No. 8.

Cardiff.—A.D.E.W., E. R. Budgen, 66, Park-place, Cardiff, Cardiff 1609/10; E.W.O., J. L. Webber, 66, Park-place, Cardiff, Cardiff 1609/10.

Swansea.—E.W.O., S. Clough, Metropole Chambers, Wind-street, Swansea, Swansea 4123.

Ruthin.—E.W.O., W. W. Baldwin, 40, Well-street, Ruthin, Denbighshire, Ruthin 351.

NORTHERN AREA—REGIONS NOS. 1 AND 2.

Newcastle.—A.D.E.W., H. E. Pitt, 81, St. Mary's-place, Newcastle-on-Tyne, Newcastle 23503; E.W.O., L. Atkinson, 81, St. Mary's-place, Newcastle-on-Tyne, Newcastle 23503.

Darlington.—A./E.W.O., W. Lamb, 101, Conniscliffe-road, Darlington, Darlington 2911.

Leeds.—E.W.O., R. M. Hudson, Bardon Chambers, 13, Infirmary-street, Leeds, Leeds 30517; E.W.O., C. I. Burrell, Bardon Chambers, 13, Infirmary-street, Leeds, Leeds 30517.

Hull.—A./E.W.O., A. J. Steel, 232, Springbank, Hull, Hull 36384.

Sheffield.—E.W.O., M. I. Addams, c/o 27, Foster's Buildings, High-street, Sheffield, Sheffield 25551.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. The dates at the head of paragraphs are those for the submission of tenders: a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING.

SEPTEMBER 15.

Epsom and Ewell T.C.—Lavatory extensions to public trench shelters. Norman Auty, A.M.Inst.C.E., Boro. Eng. Dep. £1 1s.

Gravesend T.C.—Permanent repairs to properties. Boro' Architect.

SEPTEMBER 16.

Chatham E.C.—Erection of surface shelters. Boro. Sur.

Crayford U.D.C.—Construction of reinforced brickwork surface shelter. Sur.

Notts C.C.—Store and various maintenance works at the Institution, Southwell. County Architect, Shire Hall, Nottingham. Dep. £1 1s.

SEPTEMBER 17.

Co. Durham E.C.—Out-offices at Bearpark school. F. Willey, 34, Old Elvet, Durham.

SEPTEMBER 20.

Beckenham T.C. — 18 brick surface shelters. James Dove, A.M.Inst.C.E., Boro Eng. and Sur. Dep. £2.

Thirsk R.D.C.—Erection of 32 shelters F. Stockton Gowland, Clerk.

SEPTEMBER 24.

Woking U.D.C.—Construction of 16 surface shelters. G. F. Hawkins, Eng. and Sur. Dep. £2 2s.

SEPTEMBER 26.

***Chertsey U.D.C.**—Permanent repairs to 62 houses. W. V. Davies, Eng. and Sur.

Stourbridge T.C.—Adaptation of existing premises as borough restaurant. G. N. Maynard, Boro Eng. and Sur.

SEPTEMBER 29.

Larne T.C.—Combined first-aid post and gas cleansing station. Town Surveyor's Office, Victoria-st., Larne.

NO DATE.

Southgate T.C.—Erection and waterproofing of Anderson shelters. J. T. W. Peat (F.), Boro. Eng. and Sur.

PAINTING, ELECTRIC LIGHTING, HEATING, &c.

SEPTEMBER 15.

Sunderland C.B.—Electric lighting installations in school air-raid shelters. Director of Education, 15, John-st. Dep. £2.

SEPTEMBER 16.

Keighley E.C.—Electric wiring various schools. E. G. Felgate, Boro. Architect, College-st. Dep. £1.

SEPTEMBER 20.

Montgomery C.C.—Installation of hot water supply, etc., at Llanbrynmawr police station. G. R. D. Harrison, clerk, County Offices, Welshpool.

OCTOBER 1.

Caernarvon T.C.—Painting 132 houses on various sites. H. Evans, Boro. Sur.

ENGINEERING, IRON AND STEEL.

SEPTEMBER 16.

Isle of Ely C.C.—Demolition of existing bridges and construction of two new reinforced concrete bridges and sluice. County Sur., County Hall, March.

SEPTEMBER 19.

Malvern U.D.C.—Supply and delivery of electrical centrifugal pumping set. C. C. Judson, Sur. and Water Eng.

SEPTEMBER 22.

Holland (Lincs) C.C.—Demolition of brick bridge and construction in ferro-concrete of new bridge. Wm. A. Rogerson, M.Inst.C.E., County Sur., County Hall, Boston, Lincs. Dep. £3 3s.

ROAD, SEWERAGE AND WATER WORKS.

SEPTEMBER 16.

East Riding C.C.—Resurfacing two sections of Hull-Selby trunk-rd. with bituminous slag, total length being approx. 4,800 yds. County Sur., County Hall, Beverley.

SEPTEMBER 17.

Hay U.D.C.—Provision and laying of approx. 1,200 lineal yards of 3-in. diameter spun-iron rising main and for construction of pumping station, chlorinator house and incidental works. R. Trevor Griffiths, Clerk to the Council, Council Offices, Belle Vue, Hay, via Hereford. Dep. £3 3s.

Southwell R.D.C.—Relaying of approx. 250 yds. super footpaths in concrete and the repairing and tarring of approx. 190 yds. super of existing tarred paths at houses. S. Cooper, 8, Westgate, Southwell.

SEPTEMBER 20.

Chesterton R.D.C.—Laying water services to 24 houses, Longstanton. G. G. Bennett, Deputy Sur., The County Hall, Hobson-st., Cambridge. Dep. 10s. 6d.

SEPTEMBER 22.

Chepping Wycombe T.C.—Construction of covered reinforced concrete contact tank together with treatment house, ventilating houses, etc. Boro. Water Eng., 70-71, Easton-st., High Wycombe. Dep. £2 2s.

SEPTEMBER 27.

Ely R.D.C.—Laying ¼-in. lead water services to 106 houses. Sur., 11, Lynn-rd.

NO DATE.

Hertford R.D.C.—Water supply for two parishes. D. Balfour and Sons, Consulting Eng., 9, Stone-rd. Bromley, Kent. Dep. £3.

FEDERATED EMPLOYERS' INSURANCE ASSOCIATION LTD. ESTABLISHED 1904

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PUBLIC APPOINTMENTS.

SEPTEMBER 17.

Hayes and Harlington U.D.C. — Temporary Architectural Assistant. A. E. Higgins, Clerk, Town Hall, Hayes, Middlesex.

SEPTEMBER 18.

Lanchester R.D.C.—Temporary Surveyor and Eng. T. Clarkson, Clerk.

SEPTEMBER 20.

***Islington B.C.**—Temporary Inspector of Sewers, Drains and Buildings. C. N. Cowney, M.Inst.M.&Cy.E., Boro. Eng. and Sur.

***Kent C.C.**—Instructor in Carpentry. H. Hamer, Headmaster, Stanhope School, Ty Mawr, Gilwerne, nr. Abergavenny.

NO DATE.

Romford T.C.—Temporary Clerk of Works. J. Twinn, Town Clerk.

***Westminster B.C.**—Temporary Assistant Surveyor, Assistant Clerk of Works, and Costing Clerk. City Eng., Fanum House, 66, Whitcomb-st., W.C.2.

A.R.P. SCHEMES

PROVINCIAL.

Accrington.—T.C. seeking M.H. sanction to erect additional school shelters, at £2,000.

Belper.—Derbyshire E.C. seeking permission to proceed with A.R.P. work at various schools.

Brierley Hill.—U.D.C. to provide canteens to shelters. Plans by R. H. J. Comber, Sur.

Caister.—Parish Council seeking sanction of Norfolk C.C. to erect additional shelters and to improve existing shelters.

Chapel-en-le-Frith. — Derbyshire E.C. to seek permission to proceed with the A.R.P. work at schools. Plans by J. Harrison (A.), County Architect, County Offices, St. Mary's Gate, Derby.

Coseley. — U.D.C. to provide canteens to shelters. Plans by G. K. Mitchell, Sur.

Esher.—U.D.C. have placed contract with S. A. Field and Co., Ltd., Denham, at £1,344 7s., for a cleansing station, Cobham. Plans by H. C. Fread, Sur. Full list of tenders will be found on page 251.

Kettering. — T.C. approved three static water supply basins, at £2,835.—E.C. to erect shelter at Pytchley-rd. sports ground. Plans by F. Smith, Acting Boro' Sur., Gold-st.

Morley.—T.C. to rebuild 80 communal surface shelters. Plans by F. Turner, Boro' Sur.

North Riding.—C.C. to erect report centres at Flaxton and Eaton, at £1,000.

Redditch.—U.D.C. to provide canteens to shelters. Plans by L. O. Wilkes, Sur.

Rowley Regis.—T.C. to provide canteens to shelters. Plans by L. G. Taylor, Boro' Sur., Municipal Offices, Old Hill, Staffs.

Runcorn.—R.D.C. to erect seven shelters at Frodsham and to strengthen existing shelters. Plans by A. J. King, Sur., Castle Park, Frodsham.

Sheffield.—T.C. approved: Construction of dam in River Porter, for John Shaw, Ltd.

Southwell.—R.D.C. propose brick stand-by and shelter, for fire brigade. Plans by S. Cooper, Sur.

Stafford. — T.C. to provide canteens to shelters. Plans by W. Plant, Boro' Sur.

Stanley, Yorks. — U.D.C. have accepted tenders of W. Render and Son, Wrenthorpe, H. Walton, 133, Stanley-rd., Wakefield, and A. A. Binks and Son, Church-la., Outwood, for erection of domestic surface shelters on selected sites. Plans by A. W. Quibell, Sur., Council Offices, Coach-rd., Outwood, nr. Wakefield.

Stourbridge.—T.C. to provide canteens to shelters. Plans by G. N. Maynard, Boro' Sur.

Stretford. — Regional Technical Adviser approved strengthening of 56 trench shelters, at £1,615 12s.

Thirsk. — R.D.C. to erect 32 shelters at Carlton, Miniott, Dalton and Sandhutton.

Wednesfield.—U.D.C. to provide canteens to shelters. Plans by A. H. Lawrence, Sur.

SCOTLAND.

Airdrie.—Corporation has accepted following tenders for shelters: Louden and Inglis, Ltd., Coatbridge; G. and Robert Ross, Airdrie. Plans by J. K. Fraser, Burgh Architect.

Annan.—Corporation has accepted tender of J. Crombie, Hecklegarth, for shelters. Plans by Alexander MacLellan, Burgh Architect.

Edinburgh. — T.C. to proceed with erection of surface shelters at Windsor-st. and Stenhouse Child Welfare Centres. Plans by E. J. MacRae, City Architect.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st JUNE, 1941

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors]

	Crafts-men.	Lab-ourers.
Aberavon	1/10½	1/5½
Aberdare	1/10½	1/5½
Abergavenny	1/10½	1/5½
Abingdon	1/9	1/4½
Accrington	1/10½	1/5½
Aldeburgh	1/7	1/3
Aldershot	1/9	1/4½
Alfreton	1/10½	1/5½
Alnwick	1/10	1/5½
Altrincham	1/10½	1/5½
Amble	1/10	1/5½
Amersham	1/9	1/4½
Ammanford	1/10½	1/5½
Andover	1/8½	1/4½
Ardingly	1/8½	1/4½
Arundel	1/8½	1/4½
Ascot	1/8½	1/4½
Ashby-de-la-Zouch	1/10½	1/5½
Ashford (Kent)	1/8½	1/4½
Ashford (Middlesex)	1/10½	1/5½
Ashington	1/10	1/5½
Ashtead	1/10½	1/5½
Ashton-under-Lyne	1/10½	1/5½
Aylesbury	1/8½	1/4½
Aylsham	1/7½	1/3½
Bagshot	1/8½	1/4½
Banbury	1/8½	1/4½
Barnsley	1/10½	1/5½
Barnstaple	1/8½	1/4½
Barrow-in-Furness	1/10½	1/5½
Barry	1/10½	1/5½
Basingstoke	1/8½	1/4½
Bath	1/10	1/5½
Batley	1/10½	1/5½
Beaconsfield	1/9	1/4½
Beccles	1/7	1/3
Bedford	1/10	1/5½
Berkhamsted	1/8½	1/4½
Berwick	1/10	1/5½
Beverley	1/10½	1/5½
Bexhill-on-Sea	1/9	1/4½
Bideford	1/8½	1/4½
Biggleswade	1/8½	1/4½
Billericay	1/8	1/3½
Birchington	1/8½	1/4½
Birkenhead	‡£2/0½	¶
Birmingham	†1/10½	1/5½
Bishop Auckland	1/10½	1/5½
Bishop's Stortford	1/9½	1/5
Blackburn	1/10½	1/5½
Blackpool	1/10½	1/5½
Blyth	1/10½	1/5½
Bognor Regis	1/8½	1/4½
Bolton	1/10½	1/5½
Bournemouth	1/9½	1/5
Bracknell	1/8½	1/4½
Bradford	1/10½	1/5½
Bradford-on-Avon	1/7½	1/3½
Braintree	1/8½	1/4½
Brentwood	1/10	1/5½
Bridgwater	1/9	1/4½
Bridlington	1/10	1/5½
Brighouse	1/10½	1/5½
Brighton	1/9½	1/5
Bristol	1/10½	1/5½
Broadstairs	1/8½	1/4½
Bromsgrove	1/10	1/5½
Buckley	1/10½	1/5½
Bungay	1/8½	1/2½
Burnham-on-Crouch	1/7	1/3
Burnley	1/10½	1/5½
Burslem	1/10½	1/5½
Burton-on-Trent	1/10½	1/5½
Bury	1/10½	1/5½
Bury St. Edmunds	1/8	1/3½
Buxton	1/10	1/5½
Byfleet	1/9	1/4½
Cambridge	1/10½	1/5½
Canterbury	1/8½	1/4½
Cardiff	1/10½	1/5½
Carlisle	1/10½	1/5½
Carnforth	1/10½	1/5½
Castleford	1/10½	1/5½
Caterham	1/10½	1/5½
Chard	1/7½	1/3½
Chatham	1/9½	1/5
Chelmsford	1/10	1/5½
Cheltenham	1/9½	1/5
Chepstow	1/10	1/5½
Chertsey	1/9½	1/5
Chester	1/10½	1/5½
Chesterfield	1/10½	1/5½
Chichester	1/8½	1/4½
Chorley	1/10½	1/5½
Cirencester	1/8	1/3½
Clacton	1/8½	1/4½
Clevedon	1/10½	1/5½
Clitheroe	1/10½	1/5½
Cobham (Surrey)	1/9½	1/5
Colchester	1/10	1/5½
Colwyn Bay	1/9½	1/5
Congleton	1/10	1/5½
Coventry	1/10½	1/5½
Cranbrook	1/8½	1/4½
Cranleigh	1/8½	1/4½
Crawley	1/8½	1/4½
Crewe	1/10	1/5½
Cromer	1/7½	1/3½
Crowborough	1/8½	1/4½
Cuckfield	1/8½	1/4½
Darlington	1/10½	1/5½
Darwen	1/10½	1/5½
Daventry	1/9	1/4½
Deal	1/8½	1/4½
Denbigh	1/9½	1/5
Derby	1/10½	1/5½
Devizes	1/7½	1/3½
Dewsbury	1/10½	1/5½
Didcot	1/8½	1/4½
Diss	1/7	1/3
Doncaster	1/10½	1/5½
Dorchester	1/8	1/3½
Dorking	1/9	1/4½
Dover	1/8½	1/4½
Dovercourt	1/8½	1/4½
Driffield	1/9	1/4½
Droitwich	1/10	1/5½
Dudley	1/10½	1/5½
Dunstable	1/9	1/4½
Durham City	1/10½	1/5½
Eastbourne	1/9½	1/5
E. Glam. (Mon. Val.)	1/10½	1/5½
East Grinstead	1/8½	1/4½
Edenbridge	1/8½	1/4½
Ely	1/7½	1/3½
Epping	1/10½	1/5½
Exeter	1/10	1/5½
Exmouth	1/9	1/4½
Fakenham	1/7½	1/3½
Falmouth	1/9	1/4½
Fareham	1/9½	1/5
Faversham	1/8½	1/4½
Felixstowe	1/9½	1/5
Filey	1/9	1/4½
Fleetwood	1/10½	1/5½
Flint	1/10½	1/5½
Folkestone	1/8½	1/4½
Frinton-on-Sea	1/8½	1/4½
Frome	1/7½	1/3½
Gainsborough	1/9½	1/5
Gateshead	1/10½	1/5½
Gillingham (Kent)	1/9½	1/5
Glossop	1/10½	1/5½
Gloucester	1/10	1/5½
Godalming	1/8½	1/4½
Goole	1/10½	1/5½
Gosport	1/10	1/5½
Grantham	1/9½	1/5
Gravesend	1/10	1/5½
Great Yarmouth	1/8½	1/4½
Grimsby	1/10½	1/5½
Guildford	1/8½	1/4½
Guilsborough	1/9	1/4½
Halifax	1/10½	1/5½
Hanley	1/10½	1/5½
Harpenden	1/9½	1/5
Harrogate	1/10½	1/5½
Hartlepools	1/10½	1/5½
Harwich	1/8½	1/4½
Haslemere	1/8½	1/4½
Hastings	1/8½	1/4½
Hatfield	1/10	1/5½
Haywards Heath	1/8½	1/4½
Hednesford	1/10	1/5½
Hemel Hempstead	1/9½	1/5
Henley-on-Thames	1/8½	1/4½
Hereford	1/8½	1/4½
Herne Bay	1/8½	1/4½
Hertford	1/10	1/5½
Heysham	1/10½	1/5½
Hitchin	1/9½	1/5
Hoddesdon	1/10	1/5½
Holt (Norfolk)	1/7	1/3
Horley	1/8½	1/4½
Horsham	1/8½	1/4½
Horwich	1/10½	1/5½
Huddersfield	1/10½	1/5½
Hull	1/10½	1/5½
Hunstanton	1/7½	1/3½
Huntingdon	1/8	1/3½
Ilfracombe	1/8½	1/4
Ingatestone	1/9	1/4½
Ipswich	1/10	1/5½
Isle of Thanet	1/8½	1/4½
Isle of Wight	1/8	1/3½
Keighley	1/10½	1/5½
Kenilworth	1/10½	1/5½
Kettering	1/10½	1/5½
Kidderminster	1/10	1/5½
King's Lynn	1/8½	1/4½
Kirkham	1/10½	1/5½
Knowle	1/10	1/5½
Lancaster	1/10½	1/5½
Leamington	1/10½	1/5½
Leatherhead	1/9½	1/5
Leeds	1/10½	1/5½
Leicester	1/10½	1/5½
Leighton Buzzard	1/7½	1/3½
Letchworth	1/9½	1/5
Lewes	1/8½	1/4½
Lichfield	1/9½	1/5
Lincoln	1/10½	1/5½
Littlehampton	1/8½	1/4½
Liverpool	‡£2/0½	¶
Llandudno	1/9½	1/5
Llanelly	1/10½	1/5½
London—		
12m. radius	*2/0	1/6½
12-15 m. radius	*1/11½	1/6½
Long Eaton	1/10½	1/5½
Longton	1/10½	1/5½
Loughborough	1/10½	1/5½
Louth	1/9	1/4½
Lowestoft	1/8½	1/4½
Luton	1/10	1/5½
Macclesfield	1/10	1/5½
Maidenhead	1/9½	1/5
Maidstone	1/9	1/4½
Malvern	1/9	1/4½
Manchester	1/10½	1/5½
Manningtree	1/7½	1/3½
Mansfield	1/10½	1/5½
March	1/7½	1/3½
Margate	1/8½	1/4½
Market Harborough	1/9½	1/5
Matlock	1/9	1/4½
Melton Constable	1/7	1/3
Melton Mowbray	1/9½	1/5
Merthyr	1/10½	1/5½
Middlesbrough	1/10½	1/5½
Middleton	1/10½	1/5½
Middlewich	1/10	1/5½
Milford Haven	1/9	1/4½
Morecambe	1/10½	1/5½
Morley	1/10½	1/5½
Mundesley	1/7½	1/3½
Nantwich	1/10	1/5½
Nelson	1/10½	1/5½
Newark-on-Trent	1/10	1/5½
Newbury	1/8½	1/4½
Newcastle-on-Tyne	1/10½	1/5½
Newcastle-u.-Lyme	1/10½	1/5½
New Forest	1/8½	1/4½
Newmarket	1/8½	1/4½
Newport, Mon.	1/10½	1/5½
Newport Pagnell	1/8½	1/4½
Northampton	1/10½	1/5½
Norwich	1/10½	1/5½
Nottingham	1/10½	1/5½
Nuneaton	1/10½	1/5½
Oakham	1/9	1/4½
Oldham	1/10½	1/5½
Ormskirk	1/10½	1/5½
Oxford	1/10	1/5½
Oxted	1/9	1/4½
Paignton	1/10	1/5½
Peterborough	1/10	1/5½
Plymouth	1/10½	1/5½
Pontefract	1/10½	1/5½
Pontypridd	1/10½	1/5½
Port Talbot	1/10½	1/5½
Portsmouth	1/10	1/5½
Preston	1/10½	1/5½
Pulborough	1/8½	1/4½
Ramsgate	1/8½	1/4½
Reading	1/10	1/5½
Redditch	1/10	1/5½
Redhill	1/9	1/4½
Ripon	1/9	1/4½
Rochdale	1/10½	1/5½
Rochester	1/9½	1/5
Rugby	1/10½	1/5½
St. Albans	1/10	1/5½
St. Helens	1/10½	1/5½
St. Neots	1/8	1/3½
Saffron Walden	1/7½	1/3½
Salisbury City	1/8	1/3½
Salisbury Plain	1/9½	1/5
Sawbridgeworth	1/9	1/4½
Saxmundham	1/7	1/3
Scarborough	1/10	1/5½
Scunthorpe	1/10½	1/5½
Selby	1/10½	1/5½
Sevenoaks	1/9	1/4½
Sheerness	1/8½	1/4½
Sheffield	1/10½	1/5½
Shipley	1/10½	1/5½
Shoeburyness	1/10	1/5½
Shoreham	1/9½	1/5
Shrewsbury	1/10	1/5½
Sittingbourne	1/8½	1/4½
Skegness	1/9½	1/5
Sleaford	1/9	1/4½
Slough	1/9½	1/5
Southampton	1/10	1/5½
Southend-on-Sea	1/10	1/5½
Southport	1/10½	1/5½
South Shields	1/10½	1/5½
Spalding	1/8½	1/4½
Stafford	1/10	1/5½
Staines	1/9½	1/5
Stamford	1/9½	1/5
Stevenage	1/9½	1/5
Stockport	1/10½	1/5½
Stockton-on-Tees	1/10½	1/5½
Stoke-on-Trent	1/10½	1/5½
Stourbridge	1/10½	1/5½
Stourport	1/10	1/5½
Stowmarket	1/7½	1/3½
Stratford-on-Avon	1/9½	1/5
Stroud	1/9½	1/5
Sunderland	1/10½	1/5½
Sutton Coldfield	1/10½	1/5½
Swaffham	1/7	1/3
Swanage	1/8½	1/4½
Swansea	1/10½	1/5½
Swindon	1/9	1/4½
Tamworth	1/10	1/5½
Taunton	1/9	1/4½
Tenterden	1/8½	1/4½
Thames Haven	1/10½	1/5½
Thetford	1/8	1/3½
Thorpe Bay	1/10	1/5½
Todmorden	1/10½	1/5½
Tonbridge	1/9	1/4½
Torquay	1/10	1/5½
Totnes	1/8½	1/4½
Trowbridge	1/7½	1/3½
Truro	1/8	1/3½
Tunbridge Wells	1/9	1/4½
Uppingham	1/9	1/4½
Uttoxeter	1/9	1/4½
Wakefield	1/10½	1/5½
Walsall	1/10½	1/5½
Walsden	1/10½	1/5½
Walton-on-Naze	1/8½	1/4½
Ware	1/10	1/5½
Warminster	1/7½	1/3½
Warrington	1/10½	1/5½
Warwick	1/10½	1/5½
Wellington R.D.	1/10	1/5½
Welwyn	1/9½	1/5
Welwyn Gar. City	1/10½	1/5½
Wells (Norfolk)	1/7	1/3
West Bromwich	1/10½	1/5½
Westcliff-on-Sea	1/10	1/5½
Weston-super-Mare	1/9½	1/5
Weybridge	1/9½	1/5
Weymouth	1/8½	1/4½
Whitby	1/9½	1/5
Whitstable	1/8½	1/4½
Widnes	1/10½	1/5½
Wigan	1/10½	1/5½
Wigton	1/9	1/4½
Willington	1/10½	1/5½
Wilmslow	1/10½	1/5½
Winchester	1/9	1/4½
Windermere	1/9	1/4½
Windsor	1/9½	1/5
Wisbech	1/8	1/3½
Witham	1/8½	1/4½
Woking	1/9	1/4½
Wokingham	1/8½	1/4½
Wolverhampton	1/10½	1/5½
Woodbridge	1/8	1/3½
Worcester	1/10	1/5½
Workington	1/9	1/4½
Worksop	1/10	1/5½
Worthing	1/8½	1/4½
Wrexham	1/10	1/5½
Wroxham	1/8	1/3½
Wycombe	1/9½	1/5
Wymondham	1/7½	1/3½
Yeovil	1/9	1/4½
York	1/10½	1/5½

* Painters 1d. less than other Craftsmen.
† Plus 2d. per working day.
‡ Plasterers 2/1.
¶ Tradesman's Labourers, 1/6½. Navvies and General Labourers, 1/6½.
§ Joiners, Plumbers, Bricklayers, Tilers and Masons receive 2/- per week or 4d. per day Tool Money.
NOTE.—Carpenters and Joiners in all Towns and Districts (other than Birkenhead and Liverpool) receive 2d. per day Tool Allowance.

For Building Trade Wages in Scotland, see page 250

PRICES CURRENT OF MATERIALS*

Note: Owing to the exceptional circumstances which prevail at the present time prices of materials should be confirmed by inquiry.
The prices of soft woods are for cash on delivery.
At present linseed oil and genuine spirits of turpentine can only be supplied in cans in small quantities.

BRICKS, &c.

The price for Stock Bricks has been altered to minimum price at works for full lorry loads. Sittingbourne district. A quotation for carriage should be obtained as the haulage question is difficult.

		£ s. d.
First Hard Stocks	per 1,000	£4 5 6
Second Hard Stocks	"	3 13 6
Mild Stocks	"	3 5 1
Single Rough Stocks	"	2 19 1
Third Common Stocks	"	2 10 1

	King's Cross Station per 1,000.	To sites in W.C. District. per 1,000
2½ in. Phorpres. A discount of 6d. 1,000 only monthly account.	s. d.	s. d.
Pressed	51 9	55 3
Keyed	53 9	60 3
Single Bullnose	71 9	78 3
Rustics	71 9	78 3
Whites	72 3	79 3

	£ s. d.
White Midhurst Best selected (delivered London site)	5 10 0
Best blue Pressed Staffs. (London Stns.)	10 2 0
Do. Bullnose (London Stns.)	10 12 0
Blue Wire Cuts (London Stns.)	6 19 6

Best Stourbridge Fire Brick (London Stns.):—
2½ in. 10 0 0 3 in. 12 0 0

CLARED BRICKS. (London Stns.)

Best White Ivory and Salt Glazed Stretcher	23 0 0	D'ble Str'tch'rs .. D'ble Headers .. One side & two ends	36 10 0 33 10 0 37 10 0
Headers	27 10 0	Two sides & one end	38 10 0
Quoins, Bullnose and 4½ in. Flats	34 10 0	Splays and Squints	36 0 0

Second Quality, £2 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

PARTITION SLABS.

Delivered London Area.

"PHORPRES" HOLLOW PARTITION BLOCKS.

2" per yd. sup.	2 3	3" per yd. sup.	2 9
2½" " "	2 6	4" " "	3 1

CLINKER CONCRETE.

2" per yd. sup.	1 9	3" per yd. sup.	2 6
2½" "	2 1	4" "	3 4

CRANHAM TERRA COTTA.

Size 12 x 9 x 2" per yd. super	2 6
Size 12 x 9 x 2½ "	2 9
Size 12 x 9 x 3" "	3 3
Size 12 x 9 x 4" "	3 7

Plus 2d. for smooth one side, and 4d. for smooth both sides.

Delivered: Free on site London area.

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2"	2 6	12" x 9" x 3"	3 0
12" x 9" x 2½"	2 9	12" x 9" 4"	3 9

Per yard super d/d. Free on site, London.

SAND.

Thames Ballast	9 6	per yd.	delivered 2 miles radius Paddington.
Pit Ballast	9 0	" "	
Pit Sand	11 6	" "	
Washed Sand	13 0	" "	
¼ in. Shingle	10 0	" "	
¼ in. Broken Brick	15 6	" "	
Fan Breeze	9 6	" "	

CEMENT.

Best British Portland Cement. Standard Specification.

	£ s. d.
Delivered London Area.	
6 ton loads and upwards site Per ton	3 9 6
1 ton to 6 tons site	2 12 6
Alongside Vauxhall in 80 ton lots	2 7 0
"Ferrocrete" Rapid Hardening Cement—	
6 ton loads and upwards site	2 15 6
1 ton to 6 tons site	2 12 6
Alongside Vauxhall in 80 ton lots	2 13 0

Stored in Reserved Bins at works. 1/6 per ton extra.

"Aquacrete" Water Repellent, "Blue Circle" cement, 30/- per ton extra on ordinary "Blue Circle" prices.

"Colorcrete" Nos. 1 and 2. Coloured Rapid Hardening Portland Cement, in 6-ton lots 2 19 6

"Colorcrete" not rapid hardening, according to colour, from £7 to £15 10s. per ton.

"Snowcrete" White Portland Cement 10 5 0

"417" Cement (Ultra Rapid Hardening) Delivered site London Area in 6 ton lots and upwards per ton 3 9 6

Plus packages at current prices.

Super Cement (Waterproof), *bags extra* 3 19 6

NOTE.—Paper bags will be charged at the rate of 9/- nett per ton. Jute sacks charged 1s. 9d. nett each and 1/6 nett each allowed if returned to works within two weeks, in good condition.

Carriage will be paid by makers on returned empty jute sacks.

Roman Cement	£8 0	Keene's Cement, White	£7 0 0
Parian Cement	7 0	" " Pink	6 10 0

Cementone Colours for cement according to tints per cwt. from £2 16s. 0d.

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink	4 0 0	Sirapite, Coarse	4 5 6
" White	4 7 6	" Finish	4 12 6
Pioneer	4 5 0		

Above prices for 4-ton loads and over London Area.

Best Ground Blue		Grey Stone Lime	2 14 6
Lias Lime	3 0 6	Chalk Lime	2 14 6
Granite Chippings	1 15 0	Hair per cwt.	2 7 6

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d., if returned in good condition within three months, carriage paid.

Stourbridge Fireclay in paper bags, £8 12 6 in 6-ton lots at railway depot.

STONE.

BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube s. d. 3 3½

BERE STONE—RANDOM BLOCK—

	s. d.
Free on rail at Seaton Station per ft. cube	2 3
Delivered free on rail Nine Elms, S.R.	2 1½

Selected approximate size one way, 14" per cubic ft. extra, selected approximately three sizes or for special work, 3d. per cubic ft. extra.

PORTLAND STONE—

Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube 4 7

Do. do. delivered on road waggons as above stations, per ft. cube 4 7

White basebed, 3d. per ft. cube extra.

NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ½d. beyond 30 ft.

HOPTON-WOOD STONE—

F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over F.ft.cb.	13 3
Sawn two sides	26 11
Sawn three or four sides	31 11

YORK STONE, BLUE—*Rubis Head Quality*, Delivered at any Goods Station, London.

6 in. sawn two sides landings to sizes (under 30 ft. super) per ft. super	5 6
6 in. rubbed two sides, ditto	6 3
3 in. sawn two sides slabs (random sizes)	2 7
2 in. to 2½ in. sawn one side slabs (random sizes) (paving)	1 8½
1½ in. to 2 in. ditto	1 4½

HARD YORK—

Delivered at any Goods Station, London.

Scrappied random blocks per ft. cube	6 10
6 in. sawn two sides landings to sizes (under 40 ft. super) per ft. super	5 7½
6 in. rubbed two sides, ditto	6 9
4 in. sawn two sides slabs (random sizes)	3 5
3 in. ditto ditto	2 8
2 in. self-faced random flags per yd. super	3 9

CAST STONE.

Delivered in London area in full van loads, per ft. cube: Plain, 7s. 6d. Moulded, 8s. 6d.

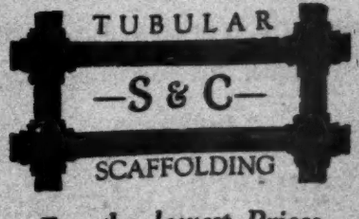
Small section cills and copings, 11s.

HARD WOOD.

1 INCH AND UP THICK.

Average price for prime quality.		Foot cube. £ s. d.
Dry English Wainscot Billets	16 0 to	0 18 0
Dry Slavonian Billet Wainscot	17 0 to	1 0 0
Dry Cuba Mahogany logs	21 0 to	1 4 0
Square-edged Honduras Mahogany		0 16 6
Log Cut Honduras Mahogany		0 17 6
American Figured Oak		0 13 0
American Plain Oak		0 12 6
Jap. Figured Oak		0 13 0
Jap. Plain Oak		0 12 6
Teak		0 15 6
American Whitewood		0 12 6
African Whitewood		0 8 0
African Mahogany		0 11 0
Australian Walnut		0 10 0
Australian Silky Oak		0 12 6
Best Scotch glue per cwt.		5 0 0
Liquid glue, per gallon		1 2 0

Having Secured the Contract— What about the Steel Scaffolding?



For the lowest Prices apply to the Oldest Firm in the Scaffolding Trade.

STEPHENS & CARTER LTD.
The British Steel Scaffolding Co.
731-761, HARROW RD., N.W.10.
Telephone No. Ladbroke 1191 (6 lines).

SOFT WOOD.

MERCHANTABLE BRITISH COLUMBIAN PINE.

	Middlesex. £ s. d.	Manchester. £ s. d.
Scantlings in imported sizes		
2 in. by 3 in. to 4 in. by 11 in.	43 10 0	43 0 0

PLANED BOARDS.

PRIME CLEAR BRITISH COLUMBIAN PINE.

	Per standard. £ s. d.
1 in. by 11 in. } 1 in. by 9 in. }	47 10 0

	Per square. s. d.
1 in. plain edge flooring	52 0
1¼ in. ditto	60 0
1 in. tongued and grooved	53 0
1¼ in. ditto	60 0

MATCHING.

	Per square. s. d.
⅞ in.	37 0
¾ in.	42 0
1 in.	55 0

SLATES.

First quality slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	45 5 0	18 by 10	24 0 0
22 by 12	37 17 6	18 by 9	22 12 6
22 by 11	34 2 6	16 by 10	21 10 0
20 by 12	33 0 0	16 by 8	16 12 6
20 by 10	30 5 0		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons Per 1,000 f.o.r. London

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district	£5 6 6
Ditto hand-made ditto	6 7 6
Ornamental ditto	6 14 0
Hip and valley tiles (per dozen) Hand-made	0 12 9
Machine-made	0 12 3

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—

R.S. Joists, cut and fitted	£22 10 0
Plain Compound Girders	25 0 0
Stanchions	27 10 0
In Roof Work	32 10 0

NOTE.—These prices are for standard pieces and not special pieces of an awkward nature.

MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
⅜ in.	22 5 0	½ in. to ⅞ in.	20 15 0
¼ in.	21 5 0	1 in. to 2½ in.	20 5 0

WROUGHT TUBES AND FITTINGS.

Deliveries from works.

Deliveries from London stock further 2½% gross.

	Tubes. ½"/⅜" %	Tubulars. ¾"/½" %	Fittings. 10/17 19/24 %	Fittings. ¾"/½" %	Fittings. 2½"/1" %
Light weight	51½	—	47½	51	57½
Heavy weight	44	44	39½	41	49½
Galv. lightweight	40½	—	36½	39½	46½
Galv. heavyweight	31	31	31	29½	41

Tubes and tubulars sizes ½"/1" inclusive, charged extra of 5% less gross.

Fittings. Figs. 25/34 5% less gross discount.

Terms.—Nett cash end of month following date of invoice. Carriage paid on lots of £10 nett value and over.

C.I. HALF-ROUND GUTTERS—London Prices ex Works. per yd. in 6 ft. lengths.

	Gutters.	Nozzels.	Stop ends.
3 in.	1/5	1/1½	4½d.
3½ in.	1/6½	1/3½	4½d.
4 in.	1/8½	1/5	6½d.
4½ in.	1/7½	1/7½	8d.
5 in.	1/11	1/9	8½d.

O.G. GUTTERS.

3 in.	1/9½	1/8½	4½d.
3½ in.	2/0½	1/6½	6½d.
4 in.	2/0½	1/7½	7½d.
4½ in.	2/1½	1/10½	8½d.
5 in.	2/7½	2/1½	9½d.

RAIN WATER PIPES.

Per yd. in 6 ft.	Pipe.	Bends. Stock angles.	Branches.
2 in.	2/1½	1/5	2/1
2½ in.	2/2½	1/7½	2/3½
3 in.	2/7½	2/0½	2/9½
3½ in.	3/1	2/5	3/6
4 in.	3/7	2/10½	4/2½

NETT PRICES.

Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices, ex Stock.

Per yd. in 6 ft.	Pipe	Bends.	Branches.
2 in.	2/6½	2/3½	3/0½
2½ in.	4/2½	2/9	3/9½
3 in.	4/6½	3/0½	4/6
3½ in.	4/7½	3/9½	5/3
4 in.	5/0½	4/2½	6/0½

L.C.C. COATED DRAIN PIPE.

	Pipe.	Bends.	Branches.
3 in. per yd. in 9 ft.	5/5	4/3	9/11
cwt. qr. lbs.			
4 in. 1 1 20	7/11	7/1	13/9
5 in. 1 2 22	9/7	12/9	19/3
6 in. 2 0 0	11/5	14/6	25/6

Gaskin, 75/- per cwt.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the average prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information. Prices are subject to 2½ per cent. cash discount.

PRICES CURRENT OF MATERIALS—(contd.)

	Per ton basis in London. £ s. d.
IRON.—Staffordshire Crown, Merchant quality	18 7 6
IRON.—Staffordshire Marked Bars	19 7 6
Mild Steel Bars	19 15 0
Mild Steel Hoops	21 10 0
Ex Merchant's Stock, per ton (two-ton lots).	
Soft Steel Sheets, C.R. and C.A.—	
20 gauge	24 17 6
24 gauge	25 2 6
26 gauge	25 17 6
Galvanized Corrugated Sheets, 6 ft. to 9 ft.—	
20 gauge	27 0 0
24 gauge	27 10 0
26 gauge	28 15 0
Galvanized Flat Sheets, C.R. and C.A.—	
20 gauge	28 10 0
24 gauge	29 0 0
26 gauge	30 5 0
	Per ton. £ s. d.
Cut Nails, 3 in. and up	28 10 0

ALL NETT.

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER.

Seamless copper tubes (basis) per lb.	1/3
Strong sheet "	1/6
Thin sheet "	1/7
Copper nails "	1/6
" wire "	1/6

PLUMBERS' BRASS WORK.

Delivered in London.
Stamped by Met. Water Board.

CRUTCH HEAD S.D. BIB COCKS FOR IRON. EASY CLEAN.

½ in.	¾ in.
34/-	53/- per doz.

CHROMIUM PLATED TOILET S.D. BIB COCKS FOR IRON. EASY CLEAN.

½ in.	¾ in.
50/-	66/- per doz.

S.D. STOP COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
37/6	53/-	97/-	202/-	288/-	460/- per doz.

S.D.S. COCKS WITH TWO UNIONS FOR LEAD.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
47/-	75/6	120/-	226/-	360/-	588/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
6/10	9/9	15/0	27/3	44/-	63/6 per doz.

HEAVY CROYDON BALL VALVES. SCREW IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
46/-	73/-	120/-	204/-	286/- per doz.

CAPS AND SCREWS.

1½ in.	1¾ in.	2 in.	3 in.	3½ in.	4 in.
10/6	13/9	19/3	34/-	48/-	53/- per doz.

BRASS SLEEVES.

1½ in.	2 in.	3 in.	3½ in.	4 in.
9/9	12/6	22/3	33/-	42/- per doz.

DRAWN LEAD TRAPS WITH BRASS CLEANING SCREWS.

	1¼ in.	1½ in.	2 in.	3 in.	
8 lb. Lead P.	23/-	28/-	54/-	93/-	per doz.
8 lb. Lead S.	36/-	42/-	67/-	120/-	"

SOLDER.—Plumbers, 1/3. Tinmen's, 1/9. Blow pipe, 1/10 per lb.

PAINTS, &c.

	£ s. d.
Raw Linseed Oil, in drums per gallon	0 5 4
Boiled Linseed Oil, in drums "	0 5 7
Turpentine, in drums (10 gals.) "	0 7 5
Genuine Ground English White Lead, per ton (in not less than 5-cwt. casks).	62 0 0

Extra for 1-cwt. kegs over 5-cwt. casks is 2/9 cwt.

GENUINE WHITE LEAD PAINT—
"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganwyte," "Polsco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5-cwt. lots, per ton delivered £ s. d. 86 0 0

Red Lead, Dry (packages extra)	per ton	53 0 0
Best Linseed Oil Putty (1 ton lots)	per cwt.	1 1 0
Sins. XD quality	1kn.	0 3 6

Turpentine substitute can be obtained and prices vary according to the quality from 3/- gallon upwards.

	£ s. d.
SNOWDON CEMENT PAINT per cwt.	2 16 0
C.M.C. CARBOLEAGE PAINT "	2 16 0

VARNISHES, &c.

		Per gallon.
Oak Varnish	Outside	0 16 0
Fine do.	"	0 18 0
Fine Copal	"	1 0 0
Pale Copal	"	1 2 0
Pale Opal Carriage	"	1 6 0
Best do. do.	"	1 14 0
Floor Varnish	Inside	1 0 0
Fine Pale Paper	"	1 0 0
Fine Copal Cabinet	"	1 4 0
Fine Copal Flatting	"	1 2 0
Hard Drying Oak	"	1 0 0
Fine Hard Drying Oak	"	1 1 6
Fine Copal Varnish	"	1 2 6
Pale do.	"	1 16 0
Best do.	"	1 4 6
Best Japan Gold Size	"	1 14 6
Best Black Japan	"	0 12 0
Oak and Mahogany Stain (water)	"	0 14 0
Brunswick Black	"	0 9 6
Berlin Black	"	0 18 0
Knotting (patent)	"	0 17 0
French and Brush Polish	"	0 14 0
Liquid Dryers in Terebene	"	0 11 0
Cubron Black Enamel	"	0 9 0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

ORDINARY GLAZING QUALITY (O.Q.) AND SELECTED GLAZING QUALITY (S.Q.).

PER FOOT SUPER.

In sizes not exceeding 60 in. long or 48 in. wide or 110 united inches.

	O.Q.	S.Q.
12 oz. to 200 ft. cases	2½d.	2¾d.
14 oz. " 200 ft. "	3¼d.	4d.
16 oz. " 200 ft. "	3¾d.	4½d.
22 oz. " 200 ft. "	5¼d.	6¼d.
24 oz. " 300 ft. "	3¾d.	5¼d.
26 oz. " 300 ft. "	3¾d.	4¾d.
32 oz. " 300 ft. "	5¼d.	6¼d.
18 oz. Obscured Sheet		5¼d.
24 oz. Obscured Sheet		6¼d.
Fluted, 21 oz.		9d.
Enamelled, 18 oz.		5¼d.
" 24 oz.		6¼d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.
Over 500 ft. super of all kinds.

	Per ft.
Rolled plate, ¼ in.	5½d.
Rough cast double rolled, ⅜ in.	6¼d.
Rough cast double rolled, ½ in.	6¾d.
Figured rolled, and Cathedral, white	6¾d.
Figured rolled and Cathedral, tinted	9¼d.
Rolled Sheet	6d.
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick	0 10½

Rolled plate is the same price as rough cast double rolled

	Per ft. s. d.
Wire Rolled, ¼ in. thick	0 9½
Wired Cast, ¼ in. thick	0 9½
Georgian Wired Cast	0 10
"Calcrex" Sheet, 21 oz.	2 6
" " 32 oz.	4 0
" Cast, ¼ in. thick	0 10
" " ⅜ in. thick	1 0
" " ½ in. thick	1 2
Non Actinic Glass, ¼ in. thick	0 9½
" " ⅜ in. thick	1 0
" " ½ in. thick	1 2

"VITA" GLASS.

	Per ft. s. d.
"Vita" Plate Glass, about ⅛ thick	
To 7 ft. super	5 0
Over 7 ft. super	7 6
"Vita" Sheet Glass, about 18/20 oz.	2 0
Cathedral "Vita" Glass:	
¼ in. thickness	2 0
⅜ in. "	3 0
½ in. Georgian Wired "Vita" Glass	3 6

LEAD, &c.

(Delivered in London.)	Per ton. £ s. d.
LEAD.—Sheet, English, 4 lb. and up	35 10 0
Pipe in coils	35 0 0
Soil pipe	40 10 0
Compo pipe	42 5 0

NOTE.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.

Old lead, ex London area, at Mills per ton £13 0 0.

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from June 1. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	A	A¹	A²	A³	B	B¹
Craftsmen	1/11	1/10½	1/10	1/9½	1/9	1/8½
Labourers	1/5½	1/5½	1/4½	1/4½	1/4	*1/3½

Aberdeen	A	Dumfriesshire	A³	Inverness	*	Perthshire	A³
Ayrshire	A	Dundee	A	Inverurie	A¹	Peterhead	A³
Banff	B	Duncon	A	Kincardineshire	A³	Renfrewshire	A
Berwickshire	A³	East Fife	A	Kinross-shire	A	Rothesay	A
Bridge of Allan	A	East Lothian	A	Lanarkshire	A	Roxburghshire	A³
Broughty Ferry	A	Edinburgh	A	Midlothian	A	St. Andrews	A
Clackmannanshire	A	Fifeshire	A	Monifieth	A	Selkirkshire	A³
Doune	A	Forfarshire	A³	Moray and Nairn	B	Stewartry	A³
Dunblane	A	Glasgow	A	Newport	A	Stirlingshire	A
Dumbartonshire	A	Greenock	A	Peeblesshire	A³	Stornoway	A³
Dumfries	A¹	Hamilton	A	Perth	A	Tayport	A
						West Lothian	A

* This town has its own rates: Masons, 1/8½; Carpenters, 1/8½; Slaters, 1/8½; Plumbers, 1/9; Plasterers, 1/9½ but 1/10 is paid owing to the scarcity at present; Painters, 1/8½ and Labourers, 1/4.

The information given in this table is copyright. Rates of wages in England and Wales are given on page 248.

WILL

(1) Clean Paint

(2) Prepare for re-painting

(3) Strip Varnish Paint and Paper (concentrated)

BETTER, QUICKER, CHEAPER

Send for Free Sample now to
J. MANGER & SON LTD.,
Dept. B.8, Kingsland, London, E.8.

Retail Prices — 1-lb. fit-pocket cartons 4½d. each: 1 doz. at 4¼d.: 3 doz. at 4d.

TRY FOR YOURSELF!

THE SCOTTISH BUILDER
NEW BUILDINGS

ANNAN. — RECONSTRUCTION.—Corporation to reconstruct Queensferry Hotel, at £30,000. A. MacLellan is Architect and Sur.

FIFE. — SCHOOL. — C.C. to proceed with erection of school accommodation on site of Episcopal Church, Rosyth.

GLASGOW. — BUILDING.—Plans prepared by staff architects for canteen, for Harland and Wolff, Ltd., Govan.—Plans prepared by J. MacDonald, 2, Balmuildy-rd., Bishopbriggs, for new buildings.

GLASGOW.—BUILDINGS. — The Glasgow Corporation Transport Dept. to erect bus depot at Helen-st., Glasgow; Campbell, Downes and Co., Ltd., to erect sawmill, offices and garage, Broomloan-rd., Govan, Glasgow.

GREENOCK.—OFFICES.—Plans in hand for offices at High-st. and Hamilton-st. Robert Miller is Burgh Architect and Sur.

OFFICIAL NOTIFICATION

Control of Iron and Steel.

The Ministry of Supply have issued the Control of Iron and Steel (No. 15) Order, 1941, Direction No. 2, which came into force on August 31, 1941, and extends until September 30, 1941, the period during which orders for all iron products, except pig iron but including iron castings, may be fulfilled without being authorised by the responsible Government Department. This extension applies only to orders placed before September 1, 1941, which would not, if the No. 8 Order had remained in force, have required to be licensed.

The exemption from licence or other authority of small purchases of iron castings has been extended from quantities not exceeding 2 cwt. to quantities not exceeding 5 cwt.

Copies of the Direction may be obtained from H.M. Stationery Office, York House, Kingsway, London, W.C.2, or any bookseller.

CURRENT AND PROPOSED NEW BUILDINGS

Abergele. — U.D.C. propose water supply improvement scheme.

Alsager.—U.D.C. propose combined strong-room and gasproof room at council offices. Plans by H. V. Lynam, Sur.

Ashford West. — R.D.C. to carry out improvements at Bethersden sewage farm, at £750. Sanction sought from M.H.

Atherton.—U.D.C. propose reinstatement of 30 additional houses. Plans by F. L. Boydell, Sur.

Barnard Castle. — R.D.C. to prepare estimate for carrying out Egglesburn water scheme.

Bellingham (Northumberland).—Ministry of Agriculture to erect hostel at Wark.

Billingham-on-Tees. — U.D.C. to provide additional canteen facilities at A.R.P. hostel. Plans by J. H. Hill, Sur.

Bingley. — U.D.C. propose day nursery, Lyndhurst Hall, Bank-dr. Plans by E. O. Robinson, Sur.

Boldon.—U.D.C. propose British Restaurant at Marsden.

Bootle.—T.C. to adapt seven buildings on various sites, for British Restaurants. Plans by W. A. Harrison, Boro' Eng.

Bridgnorth.—T.C. approved: Alterations to Oldbury Grange, for National Institution for the Blind.

Bury. — T.C. propose adaptation of premises at Elton for British Restaurant. Plans by J. Chadwick, Boro' Eng.

Consett. — U.D.C. seeking premises at Leadgate and Blackhill for adaptation as British Restaurants. Plans by T. P. Leath, Sur.

Croydon. — T.C. approved ventilation at Cheam Sanatorium, at £450.

Dagenham.—T.C. approved: Canteen, for Briggs Motor Bodies, Ltd.; storeroom, for Pritchett and Gold.

Darlington. — T.C. propose alterations to Leadyard omnibus station. Plans by E. Minors, Boro' Sur.

Edlington. — Local branch of Yorkshire Miners' Association proposes communal feeding canteen at Yorkshire Main Colliery.

Eston.—U.D.C. to set up British Restaurants at South Bank, Eston and Normanby.

Formby. — U.D.C. propose conversion of premises for British Restaurant. Plans by E. K. Gollan, Sur.

Huyton.—Lancashire Standing Joint Committee propose erection of police station.

Kettering. — T.C. approved: Extension to store, for W. B. Wright.

Kettering. — T.C. propose adaptation of hall at Tordoff schools for British Restaurant. Plans by F. Smith, Acting Boro' Sur.

Leigh. — Busy Bee, Ltd., Bradshawgate, proposes to reconstruct premises.

Leyton.—T.C. received sanction to adapt Holy Trinity Church Institute, South Birkbeck-rd., as British Restaurant, at £366 16s.

Maidstone. — The Maidstone and District Motor Services, Ltd., have acquired land for extension of bus station.

Middlesbrough. — T.C. to provide two British Restaurants. Plans by C. Gorman, Boro' Eng.

Morley.—T.C. approved: Canteen to works, Gildroyd Mills, for J. Hartley and Sons, Ltd.; office and stores, for Poultry Producers (West Riding), Ltd.

North Riding.—C.C. to carry out improvements to Thornton Hall, sewerage and water supply, and lighting, at £365.—C.C. to improve drainage system, Swainby, at £2,500.—C.C. to carry out repairs to Blue Bank, Sleights, at £3,000. Plans by the County Sur., County Hall, Northallerton.

Prestwich. — T.C. propose additional British Restaurant. Plans by Handel Kay, Boro' Sur.

Radcliffe. — T.C. to acquire premises for adaptation for British Restaurant. Plans by G. E. Wrigley, Boro' Sur.

Rochdale. — Watch Committee propose adaptation of premises Alfred-st., for Traffic and Licensing Dept. Plans by S. H. Morgan, Boro' Sur.

Sheffield.—T.C. approved: Subway Hawke-st., for English Steel Corporation, Ltd.—John Smith's Tadcaster Brewery Co., Ltd., to erect hotel at Parson Cross estate.—T.C. acquired site in Nursery-st. for wholesale markets. Plans by W. G. Davies (F.), City Architect.—E.C. to acquire premises in Handsworth-rd. for conversion into annexe to Handsworth school.

Stretford. — T.C. approved lavatory and cloakrooms, for Rubber Regenerating Co., Ltd.; gas compressors house, for Manchester Corporation Gas Dept.

Sunderland.—W. and T. R. Milburn, 17, Fawcett-st., Sunderland, prepared plans for alterations to "Hendon Station Hotel," for James Deuchar, Ltd.—Dawson and Usher to erect storage shed, Darcy-rd.—Plans approved for canteen in Bk. Alfred-st., for J. J. Jobling and Co., Ltd.

Urmston. — U.D.C. propose additional British Restaurant, Flixton-rd. Plans by E. L. Leeming, Eng. and Sur.

West Lancashire.—R.D.C. propose conversion of premises for emergency feeding and rest centres in rural area. Plans by R. Rosbotham, Sur., Derby-st., Ormskirk.

York. — T.C. propose alterations to mortuary in Kent-st. Plans by C. J. Minter, City Eng.

NEW COMPANIES

THE particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 and 117, Chancery-lane, W.C.2, from the documents available at the Companies Registry.

TURNER & COMPANY (WILMINGTON), LTD. (368,901). Regd. August 23. 122, Birchwood-road, Wilmington, Kent. Roofers, slaters, tilers, building contractors, etc. Nom. cap. £200. Dir., C. E. Turner, "Ridgehill," Top Dartford-road, Wilmington.

BIRMINGHAM BUILDERS, LTD. (368,925). Regd. August 26. 50, Suffolk-street, Birmingham, 1. Nom. cap., £1,000. Dirs., H. T. Rowbotham, 230, Hagley-road, Edgbaston, Birmingham, and W. E. Draycott.

G. K. UTILITIES AND PROPERTY TRUST, LTD. (368,929). Regd. August 26. 10, Zetland-road, Bristol. Builders, contractors, dealers in land and property, etc. Nom. cap., £500. Dirs., G. K. Stanton, Corston Manor, Corston, near Bath, and A. C. Smith.

PHILLIPS KERRIDGE & Co., LTD. (368,964). Regd. August 27. Triumph House, Regent-street, W.1. Builders, etc. Nom. cap., £100. Dirs., R. W. Saffell, 203, Beehive-lane, Ilford, Essex, F. H. Saffell.

W. PENNY & Co., LTD. (368,968). Regd. August 27. 14, Store-street, W.C.1. Builders, etc. Nom. cap., £400. Dir., W. E. C. Penny, 12, Alexandra-grove, N.12.

ASSOCIATED CONTRACTORS (KINGSWINFORD), LTD. (368,992). Reg. August. 29. Builders, contractors, etc. Nom. cap., £100. Dirs., K. J. MacMaster and C. MacMaster, Stornaway House, Kingswinford, Staffs.

A. E. MILLSON, LTD. (368,999). Regd. August 29. "River View," Station-road, Woolhampton, Berks. Builders, contractors, etc. Nom. cap., £500. Dir., A. E. Millson, Highgate Villas, Woolhampton.

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TENDERS

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Tuesday morning.

Tenders for A.R.P. work will be found under "A.R.P. Schemes."

* *Denotes accepted.*
† *Denotes provisionally accepted.*
‡ *Denotes recommended for acceptance.*
§ *Denotes accepted subject to modification.*
¶ *Denotes accepted by H.M. Government departments.*

Bakewell.—Construction of brick and concrete reservoir and for laying and jointing of approx. 300 lin. yds. of 3 in. cast-iron water main, for U.D.C. T. W. Baker, Sur. :—

Cheverill & Son, Ltd., 7, Princes-st., Westminster, S.W.1	£367 12 9
*Barker & Mellor, Bakewell	296 5 6

Dagenham. — Repair of sewer, for T.C.: †John Mowlem & Sons, Ltd.

Esher.—Sleeping quarters, Hinchley Wood, for U.D.C. H. C. Fread (F.), F.S.I., Sur. :—

F. & G. Harris, Long Ditton	£1,075 0 0
Milham & Sons, Esher	929 0 0
Walker (Tooting), Ltd., Croydon	928 0 0
Wheatley & Sons, Ltd., East Molesey	890 0 0
C. H. Coates, Ltd., Surbiton	878 5 10
Shepherds (East Molesey), Ltd., East Molesey	856 0 0
E. Potterton, Ltd., East Molesey	787 0 0
W. P. McCartney & Co., Croydon	740 0 0
*Smith, Ingram & Co. (1940), Ltd., Walton-on-Thames	646 0 0

Esher.—Public cleansing station, Cobham, for U.D.C. H. C. Fread (F.), F.S.I., Sur. :—

C. Neal & Son, West Horsley	£2,221 0
R. Wake & Co., Ltd., Kingston	1,944 0
Walker (Tooting), Ltd., Croydon	1,813 0
W. J. Hallt, Ltd., East Molesey	1,780 0
Hunter Dunn, Ltd., Esher	1,762 3
Milham & Sons, Esher	1,711 10
Delahaye & Co., Leatherhead	1,661 1
Shepherds (East Molesey), Ltd., East Molesey	1,633 0
C. H. Coates, Ltd., Surbiton	1,559 2
Smith Ingram & Co. (1940), Ltd., Walton-on-Thames	1,528 0
*S. A. Field & Co., Ltd., Denham	1,344 7

Glasgow.—Clinic, Crail-st., for T.C. Thomas Somers, Municipal Buildings, architect: Excavation, brick and building works, *Hunter & Clark, Ltd., Glasgow.

Glasgow.—Reconstruction work. George Boswell, 256, West George-st., Glasgow, Architect and Sur.: Excavation, brick and mason works, etc., *P. & W. Anderson, Ltd., Glasgow.

Glasgow.—Reconstruction. James Monro & Son, 307, West George-st., architects: Excavation, brick and mason works, etc., *William Lightbody, Ltd., Bridgeton Cross.

Glasgow.—Reconstruction and additional rest-rooms. Charles McNair & Elder, 274, St. Vincent-st., architects: Excavation, brick and mason works, etc., *R. Rogerson & Co., Ltd., Sootstoun.

¶London (Air Ministry).—Contracts placed to the value of £500 or over for the week ended August 30 :—

Air filtration work: Hope's Heating & Lighting, Ltd., London.

Aerodrome surface work: W. & J. Glossop, Ltd., York.

Heating work: G. N. Haden & Sons, Ltd., London.

General maintenance work: F. Shepherd & Son, Ltd., York; G. E. Wallis & Son, Ltd., Truro; F. Berry, Warrington; F. Wood, Wendover; H. C. Janes, Ltd., Luton; Jas. Miskimmin & Son, Ltd., Belfast; John Andrews, Belfast; Collen Bros., Portadown.

Civil engineering work: W. & J. R. Watson, Ltd., Edinburgh; J. Gerrard & Sons, Ltd., Manchester; Helical Bar & Engrg. Co., Ltd., London; Jas. Miller & Partners, Ltd., Edinburgh, 2; M. J. Gleeson, Ltd., North Cheam.

Erection of structural steelwork: W. James & Co., Ltd., Willesden.

Electrical work: Clough Smith & Co., Ltd., Redhill; Edmundsons Electricity Corpn., Ltd., London; Electrical Installations, Ltd., London; Britannic Electric Cable and Constrn. Co., Ltd., Iver; T. Clarke & Co., Ltd., London.

¶**London (War Dept.).**—Contracts placed for week ended August 30:—

Dumfriesshire: Painting work, Thomson & McEwan, 36-38, Coburg-st., Glasgow, C.5.

Northumberland: Hutting (erection, etc.), T. Clements & Sons, Ltd., Selbourne-gdns., Newcastle-on-Tyne, 2.

Co. Durham: Hutting (erection), Henry F. Mole, The Vineries, Chester-le-Street.

Yorks: Hutting (erection), Beeden, Ltd., Park-la., Thryberg, Rotherham.

Yorks: Miscellaneous work, Drake & Warters, Ltd., New Wells, Wakefield, Yorks.

Lancs: Hutting (erection), Nicholson & Wright, Ltd., Cable-st., Lancaster.

Derbyshire: Hutting (erection), Harris Bros. (Mareham), Ltd., Mareham, Derby.

Leics: Miscellaneous work, Sherriff & Co., Ltd., Gipsy-la. Works, Ireton, Leicester.

Beds: Miscellaneous work, Samuel Foster, Ltd., Kempston, Bedford.

Herefordshire: Hutting (erection), Wildsmith & Hurrell (Builders), Ltd., Watery-la., Newent, Glos.

Glos: Hutting (erection, etc.), H. J. Walker & Son, Station-rd., Fishponds, Bristol.

Glos: Miscellaneous work, A. C. Billings & Sons, Ltd., 54, Winchcombe-st., Cheltenham.

Kent: Miscellaneous works, E. Bishop & Sons, Ltd., 19, Albany-rd., Sittingbourne; and Gough Cooper & Co., Ltd., Wilmington House, Wilmington, Kent.

Surrey: Miscellaneous works: F. Milton & Sons, Ltd., Steam Joinery Works, Witley, Surrey.

Sussex: Miscellaneous work, Z. Peskett & Sons, Ltd., Angmering, nr. Littlehampton; Parr-Head & Clements, Knowling, Ltd., Derwent Yard, Ealing, W.5; Shorter's Construction Co., Ltd., 1,175, Finchley-rd., Temple Fortune, London, N.W.11; and Scott-Hale, Ltd., Globe-rd., Romford, Essex.

Hants: Hutting (erection, etc.), G. E. Prince & Son, 24-25, Chapel-rd., Southampton; and Bagshaw & Son, Ltd., 37, Belle Vue-rd., Southampton.

Wilts: Hutting (erection), Rowley & Son, 8, Romsey-rd., Southampton.

Co. Londonderry: Hutting (erection), H. Taggart, Church-st., Ballymoney, Co. Antrim.

Newcastle-on-Tyne.—Street works at Shotley Bridge, for T.C.: *C. S. Bunch & Son, Benfield-rd., Newcastle-on-Tyne, £182.

Newcastle-on-Tyne.—Conversion of Grand Assembly Rooms into British Restaurant, for T.C. R. G. Roberts, City Architect, 18, Cloth Market: *J. & W. Lowry, 50, Corporation-st., Newcastle-on-Tyne.

Northumberland. — Erection of hostel at Longhorsley. P. L. Browne, Son & Harding, Newcastle-on-Tyne, architects: *R. Carse & Sons, Amble.

Renfrew.—Canteen. T. Cordiner, 261, West George-st., Glasgow, architects: Excavation, brick and mason works, etc., *William Nimmo (Builders), Ltd., Glasgow.

Stanley. — Painting 187 houses on Wrenthorpe and Kirkhamgate estates, for U.D.C. R. Blakey, Sanitary Inspector, Coach-rd., Outwood: *H. E. Larrad, 2, West-av., Northfield-la., Horbury, Wakefield, £615.

Stretford. — External painting of 203 houses, Barton-rd. estate, for T.C.:—

(42)	‡Wm. Costin & Son, Gorse Hill	£157 10
(22)	‡A. Reeves, Stretford	70 0
(50)	‡F. W. Hartley, Upper Chorlton-rd.	140 0
(50)	‡G. E. Hollins, Trafford-pk.	149 12
(39)	‡Charles Costin, Gorse Hill	98 0

Walker-on-Tyne.—Canteen. Cackett, Burns Dick & McKellar, Ellison-pl., Newcastle, architects: *Stephen Easten, Ltd., Westgate Grange, Newcastle.

Wetherby. — Construction of motor and pump-house, for R.D.C. F. J. Rodwell & Son, Consulting Eng., 20, Park-row, Leeds: *Kettlewell & Charnock, Ltd., Collingham Bridge, nr. Leeds.

TRADE NEWS

Economy in Paint.

In view of the issue by the Ministry of Health of Circular 2462 (reprinted in our last number) in which attention was drawn to the need for local authorities and public utility bodies to use with the strictest economy paints containing linseed oil, it is of interest to note that there are in existence certain well-tried and established paints which do not incorporate this oil. One of these products is "Fresco," a decorative wall-paint, which is described as a non-linseed oil finish. Details of this paint are obtainable from the manufacturers, Messrs. A. T. Morse, Sons & Co., Ltd., Grange-road, Plaistow, London, E.13.

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